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United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *January 31, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[January, 1898.]

(See accompanying notes regarding Department publications.)

Changes in and Additions to Methods of Analysis Adopted at the Thirteenth and Fourteenth Annual Meetings of the Association of Official Agricultural Chemists. Pp. 10. (Circular No. 4, Division of Chemistry, to accompany Bulletin No. 46.)

All changes in methods of analysis of the Association of Official Agricultural Chemists made at the annual meetings of 1896 and 1897 have been incorporated in this circular.

Number, Status, and Compensation of Employees in the Department of Agriculture. By J. B. Bennett, Appointment Clerk. Pp. 4. (Circular No. 6, Office of the Secretary.)

Gives the aggregate number and salaries, by States, of persons employed in the United States Department of Agriculture.

Possible Influence of Importation of Hawaiian Sugar on Beet-Sugar Production in the United States. Letter from the Secretary of Agriculture in response to the Senate Resolution of January 14, 1898. Pp. 4. (Circular No. 7, Office of the Secretary.)

Shows our imports of sugar from the Hawaiian Islands and from all sources, our production and consumption of sugar, and our production and consumption of beet sugar; discusses the production of sugar in Hawaii and the limitations that surround it; describes the experiments conducted by the Department of Agriculture relative to the culture of the sugar beet in the United States, the great possibilities of the industry, and the advantages it would bring to other branches of agriculture; maintains that Hawaiian sugar is not likely to compete seriously with the beet-sugar industry in the United States.

The Box-elder Plant-bug (*Leptocoris trivittatus* Say.). By L. O. Howard, Entomologist. Pp. 3, fig. 1. (Circular No. 28, second series, Division of Entomology.)

Describes the general appearance and method of work of the insect; defines its distribution, gives an account of its natural history and habits, and suggests remedies.

The Mexican Cotton-boll Weevil in 1897. By L. O. Howard, Entomologist. Pp. 7. (Circular No. 27, second series, Division of Entomology.)

This circular is a supplement to Circular No. 18, Division of Entomology, and simply gives facts concerning the work of the insect during the summer of 1897, including observations of the season of 1897, conditions and spread during 1897, the presence of the weevil in ginned seed and ginned cotton, machines for the destruction of the insect, the value of domestic fowls as destroyers of the weevil, and remedies.

American Ginseng: Its Commercial History, Protection and Cultivation. By George V. Nash. Pp. 22, figs. 2. (Bulletin No. 16, Division of Botany.) Reprint. Price 5 cents.

This report has been reprinted in response to a popular demand for information on the cultivation of American ginseng.

CONTENTS: History—Description—Range—Medicinal properties—Commercial value—Exportation—Protection—Cultivation—Chemical analysis—The seed—Preparation of the root—Profits.

Experiment Station Work—II. Prepared in the Office of Experiment Stations. Pp. 32, figs 7. (Farmers' Bulletin No. 65.)

This is the second number of a subseries of brief, popular bulletins summarizing the work of the Agricultural Experiment Stations.

CONTENTS: Common crops for forage—Stock melons—Starch in potatoes—Crimson clover—Geese for profit—Cross pollination—A germ fertilizer—Lime as a fertilizer—Are ashes economical?—Mixing fertilizers.

Forestry for Farmers. By B. E. Fernow, Chief of the Division of Forestry. Pp. 48, figs. 15. (Farmers' Bulletin No. 67, Division of Forestry.)

The five chapters composing this bulletin, and treating of how trees grow, how to plant a forest, how to treat the wood lot, how to cultivate the wood crop, the relation of forests to farms, are reprinted from Yearbooks for 1894 and for 1895, in order that there may be a wider distribution of this information concerning a subject of very great but not always recognized importance to the farmers of this country.

The Black Rot of the Cabbage. By Erwin F. Smith, Division of Vegetable Physiology and Pathology. Pp. 22, fig. 1. (Farmers' Bulletin No. 68, Division of Vegetable Physiology.)

CONTENTS: Introduction—Nature and prevalence of the disease—Sources of infection—Fundamental problems—Suggestions for prevention—Prompt marketing—Storage—No danger from eating affected cabbages—Synopsis of rules for prevention

Reference List of Publications relating to Edible and Poisonous Mushrooms. Compiled by Josephine A. Clark, Assistant Librarian. Pp. 16. (Library Bulletin No. 20.) Price 5 cents.

The Gipsy Moth in America: A Summary Account of the Introduction and Spread of *Porthetria Dispar* in Massachusetts and of the Efforts Made by the State to Repress and Exterminate it. By L. O. Howard, Entomologist. Pp. 39, figs. 8. (Bulletin No. 11, new series, Division of Entomology.) Price 5 cents.

CONTENTS: Introduction—The Gipsy Moth in Europe—Life history of the insect—Appearance of the Gipsy Moth in America—A review of the State legislation—Methods used by the State authorities—Opposition to the State work—The investigation of the work by the writer during 1897—Present condition of the infested territory—Conclusions.

The Timber Pines of the Southern United States, by Charles Mohr, Ph. D.; Together with a Discussion of the Structure of Their Wood, by Filibert Roth. Prepared under the direction of B. E. Fernow, Chief of the Division of Forestry. Pp. 176, plates 27, figs. 18. (Bulletin No. 13 (revised edition), Division of Forestry.) Quarto. Price 35 cents.

CONTENTS: Introduction—The Long-leaf Pine—The Cuban Pine—The Short-leaf Pine—The Loblolly Pine—The Spruce Pine—Notes on the structure of the wood of five Southern pines—Observations on the Marsh, or Pond, Pines.

Experiment Station Record, Vol. IX, No. 4. Pp. vii, 301-400.
Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Weather Review. October, 1897. Vol. XXV, No. 11.
Pp. 471-516, charts 9. (Weather Bureau.) Price 10 cents.

Floods of the Mississippi River. Prepared under the direction of Willis L. Moore, Chief of Weather Bureau, by Park Morrill, forecast official in charge of river and flood service. Pp. vi, 79, pls. 5, maps and diagrams 58. (Weather Bureau.) Quarto. Price \$1.

The publication is divided into four sections: I, The River and Basin; II, Normal Precipitation and Drainage; III, The River in Flood; IV, Spring Flood of 1897.

An effort has been made to briefly cover the entire regimen of the river both in its normal condition and in flood. The physical characteristics of the Mississippi basin and river have been reviewed, and the best data available as to area of watersheds, dimensions and slope of the main stream and its tributaries, are given in the twenty-two tables.

Charts of the Weather Bureau—

Snow and ice charts for Monday, January 3, 10, 17, 24, 31.

(These charts are issued weekly on Tuesdays during the winter season, based upon data from regular Weather Bureau stations, supplemented by reports from selected voluntary observers.)

Climate and Crop Bulletin (series of 1897), reporting temperature and rainfall, with special reference to their effect on crops. (No. 32, for the month of December, 1897.)

Rain, snow, and wind storm of January 24-26, 1898.

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

NOTES REGARDING DEPARTMENT PUBLICATIONS.

The publications of the United States Department of Agriculture are of three classes: (1) Serial publications; (2) scientific and technical reports; and, (3) popular bulletins.

The first two classes are issued in limited editions and are not intended for general distribution, being particularly designed for scientific students and for libraries and institutions of learning. They are distributed free to persons cooperating with or rendering the Department some service. Sample copies will be sent if requested, but miscellaneous applicants should apply to the Superintendent of Documents, Union Building, Washington, D. C., to whom all publications not needed for official use, except circulars and bulletins printed by law for free distribution, are turned over in accordance with the following provision of the act providing for the public printing and binding and the distribution of public documents, viz:

SEC. 67. All documents at present remaining in charge of the several Executive Departments, bureaus, and offices of the Government not required for official use shall be delivered to the Superintendent of Documents, and hereafter all public documents accumulating in said Departments, bureaus, and offices not needed for official use shall be annually turned over to the Superintendent of Documents for distribution or sale.

The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the **number** and **title** of the publication desired.

The Department has no list to whom all publications are sent; the variety of the subjects treated naturally restricts the distribution of most of them to the sections of country to which they are especially suitable and to specialists. The Monthly List of Publications, issued the first of each month, will be mailed to all who apply for it. In it the titles of the publications are given with a note explanatory of the character of each, thus enabling the reader to make intelligent application for such bulletins and reports as are certain to be of interest to him.

The Department can not undertake to furnish complete sets of either Farmers' Bulletins or other publications.

For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.

For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

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accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

The Superintendent of Documents is not permitted to sell more than one copy of any public document to the same person.

The Superintendent of Documents is not an official of the Department of Agriculture.

Applications for all other publications of this Department should be addressed to the Secretary of Agriculture, Washington, D. C.

Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *February 28, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[February, 1898.]

(See accompanying notes regarding Department publications.)

Tobacco Soils of the United States: A Preliminary Report Upon the Soils of the Principal Tobacco Districts. By Milton Whitney, Chief of Division of Soils. Pp. 47, pls. 13. (Bulletin No. 11, Division of Soils.) Price 10 cents.

Illustrates the difference in the texture and physical properties of soils adapted to the different classes, types, and grades of tobacco, and contains information regarding statistics of tobacco culture, the tobacco districts, soils of the tobacco districts, and the relative water content of tobacco soils.

The Inspection of Meats for Animal Parasites, comprising, I—The Flukes and Tapeworms of Cattle, Sheep, and Swine, with Special Reference to the Inspection of Meats, by Charles Wardell Stiles; II—Compendium of the Parasites, Arranged According to Their Hosts, by Albert Hassall; III—Bibliography of the More Important Works. Prepared under the Direction of Dr. D. E. Salmon, Chief of the Bureau of Animal Industry. Pp. 161, figs. 124. (Bulletin No. 19, Bureau of Animal Industry.) Price 10 cents.

Intended primarily for the use of meat inspectors of the Bureau, but is of general interest to sanitarians. It treats of the communicability of certain parasites from animals to man and suggests methods of prevention and treatment. (The edition of this publication was by law limited to 1,000 copies and is already exhausted.)

Dietary Studies in New York City in 1895 and 1896. By W. O. Atwater, Ph. D., and Charles D. Woods, B. S. Pp. 117. Bulletin No. 46, Office of Experiment Stations.) Price 10 cents.

Comprises the results of an inquiry into the food habits of a number of families in the congested districts of New York City, especially as regards the kind of food purchased, the cost of the same and its nutritive value.

A Report to Congress on Agriculture in Alaska, including Report by Walter H. Evans, Benton Killin, and Sheldon Jackson. Prepared under the direction of A. C. True, Director of the Office of Experiment Stations. Pp. i-iii, 1-36, pls 23. (Bulletin 48, Office of Experiment Stations.) Congressional edition.

A report prepared in compliance with a special provision in the appropriation for the U. S. Department of Agriculture for the present year. It was transmitted to Congress and printed as a document of the House of Representatives, a limited number being allotted to the Department, and has been designated as a bulletin of the Office of Experiment Stations. It relates to the physical features, climate, products, and agricultural possibilities of Alaska.

Organization Lists of the Agricultural Experiment Stations and Institutions with courses in Agriculture in the United States. Pp. 96. (Bulletin No. 47, Office of Experiment Stations.) Price 10 cents.

Contains also the Federal legislation relating to the colleges and stations, and rulings of the Treasury, Post-office, and Agricultural Departments as to the construction of the act creating the stations.

The San Jose Scale: Its Occurrences in the United States, with a full account of its life history and the remedies to be used against it. By L. O. Howard and C. L. Marlatt. Pp. 80, figs. 8. (Bulletin No. 3, new series, Division of Entomology.) Reprint. Price 10 cents.

Observations on Recent Cases of Mushroom Poisoning in the District of Columbia. By Frederick V. Coville, Botanist. Pp. 24, figs. 27. (Circular No. 13, Division of Botany.) Revised edition.

A Report on the Work and Expenditures of the Agricultural Experiment Stations for the year ended June 30, 1897. By A. C. True, Director of the Office of Experiment Stations. Pp. 97, pls. 6. (Bulletin No. 50, Office of Experiment Stations.)

This is the regular annual report of the work and expenditures of the agricultural experiment stations throughout the United States for the fiscal year ended June 30, 1897, and transmitted to Congress in compliance with a law enacted by that body March 2, 1887.

Accessions to the Department Library. October–December, 1897. Pp. 23. (Library Bulletin No. 21.)

The Cotton Crop of 1896–97. John Hyde, Statistician. Pp. 14. (Circular No. 8, Division of Statistics.)

An estimate of the cotton crop for the year ended August 31, 1897, based upon official statements of all the railway and water transportation companies in the cotton-growing States; also the statements made by officials of all the mills in the cotton States that were in operation during that time, showing the quantity of cotton purchased by them for consumption during the year; and the reports of special agents located at the posts and important receiving points in the interior. The circular also gives the cotton acreage, production, and value, by States.

Agricultural Imports and Exports, 1893–1897. By Frank H. Hitchcock, Chief of Section of Foreign Markets. Pp. 15. (Circular No. 20, Section of Foreign Markets.)

Gives the total value of our agricultural imports and exports during each fiscal year from 1893 to 1897, inclusive, as compared with the total value of all merchandise imported and exported. Also a detailed statement as to quantities and values of agricultural commodities imported and exported during the time mentioned.

Monthly List of Publications, January, 1898. Pp. 4. (No. 257, Division of Publications.)

A list of publications issued during January by the United States Department of Agriculture.

Adulteration of Wheat Flour. By A. J. Wedderburn, special agent of the Department of Agriculture, under the direction of Dr. H. W. Wiley, Chemist of the Department. Pp. 42. (Document No. 309, House of Representatives, Fifty-fifth Congress, second session.) (A special edition for the use of Congress only.)

A report on the character and state of adulteration of wheat flour with flour made from Indian corn, transmitted to the Committee on Ways and Means of the House of Representatives by the Secretary of Agriculture, in compliance with a request from that body.

Experiment Station Record, Vol. IX, No. 5. Pp. v, 301-500. Price 10 cents.

The record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

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Monthly Weather Review. December, 1897. Vol. XXV, No. 12. Pp. 519-568, charts 7. (Weather Bureau.) Price 10 cents.

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Snow and ice charts for Monday, February 7, 14, 21, 28.

(These charts are issued weekly on Tuesdays during the winter season, based upon data from regular Weather Bureau Stations, supplemented by reports from selected voluntary observers.)

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United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *March 31, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[**March, 1898.**]

(See accompanying notes regarding Department publications.)

Report of Preliminary Investigations on the Metabolism of Nitrogen and Carbon in the Human Organism, with a Respiration Calorimeter of Special Construction. By W. O. Atwater, Ph. D., C. D. Woods, B. S., and F. G. Benedict, Ph. D. Pp. 64, figs. 4. (Bulletin No. 44, Office of Experiment Stations.) Price 5 cents.

Furnishes some preliminary results of experiments intended to determine more exactly the use made by the human organism of the food supplied it. The results of four experiments in feeding a man under carefully controlled conditions are published, along with observations on the method of using instruments, making calculations, etc.

Monthly List of Publications, February, 1898. Pp. 4. (No. 258, Division of Publications.)

A list of publications issued during February by the United States Department of Agriculture.

Our Foreign Trade in Agricultural Products during the Five Fiscal Years 1893-1897. Prepared by Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 38. (Bulletin No. 10, Section of Foreign Markets.) Price 5 cents.

Presents a review of commercial transactions in agricultural products between this country and foreign nations for the past five years. Increases and decreases in the transactions in important articles are explained, and the balance of trade is discussed. Full tables give, in form for easy reference, the statistics of exports and imports in detail.

Experiment Station Record, Vol. IX, No. 6. Pp. v, 501-600. Price 10 cents.

Experiment Station Record, Vol. IX, No. 7. Pp. vi, 601-700. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Experiment Station Work—III. Prepared in the Office of Experiment Stations. Pp. 32, figs. 2. (Farmers' Bulletin No. 69, Office of Experiment Stations.)

CONTENTS: Flax culture—Crimson clover—Forcing lettuce—Heating green-houses—Corn smut—Millet disease of horses—Tuberculosis—Pasteurized cream—Kitchen and table wastes—Use of fertilizers.

The Cultivated Vetches. By Jared G. Smith, Assistant Agrostologist. Pp. 7, figs. 4. (Circular No. 6, Division of Agrostology.)

Description and method of cultivation of Hairy vetch—Spring vetch—Winter vetch—Kidney vetch.

Repairs of Macadam Roads. By E. G. Harrison, C. E. Pp. 14.
(Circular No. 30, Office of Road Inquiry.)

Treats of the proper care of turnpike roads, makes suggestions as to width of tires and other points in the construction of wagons, and is accompanied with letters from road supervisors.

The San Jose Scale in 1896-1897. By L. O. Howard, Entomologist.
Pp. 31. (Bulletin No. 12, new series, Division of Entomology.)
Price 5 cents.

Gives the results of a study of the spread of the San Jose Scale in 1896 and 1897 in the various States, together with description of the scale in the various stages of its growth, list of its food plants, discussion of remedies, including natural enemies, and of the relation of its spread to climate.

A Digest of Metabolism Experiments in which the Balance of Income and Outgo Was Determined. By W. O. Atwater, Ph. D., and C. F. Langworthy, Ph. D. Pp. 434. (Bulletin No. 45, Office of Experiment Stations.) Price 25 cents.

Presents the results of an elaborate investigation of the nutritive value, digestibility, and use by the vital organism of man and other animals of various food materials. Especial attention is given to the transfer of elements from food to the living being with the accompanying transfer of energy. The experiments with men include cases of disease, and cover the field quite fully. The experiments with animals include work with cattle, dogs, poultry, goats, horses, rabbits, sheep, and swine. The work has an index. The bulletin is not for general distribution, and the small edition is already practically exhausted.

Proceedings of the Eleventh Annual Convention of the Association of American Agricultural Colleges and Experiment Stations held at Minneapolis, Minn., July 13-15, 1897. Edited by A. C. True and H. H. Goodell. Pp. 100, fig. 1. (Bulletin No. 49, Office of Experiment Stations.) Price 10 cents.

Contains reports on various subjects of interest to the association, resolutions on post graduate study at Washington and on deposit of government publications at land grant colleges, the address of the president, etc.

The Electrical Method of Moisture Determination in Soils: Results and Modifications in 1897. By Frank D. Gardner, Assistant, Division of Soils. Pp. 24, figs. 2, pls. 3. (Bulletin No. 12, Division of Soils.) Price 5 cents.

Furnishes the results of investigation with the new electrical apparatus for determining soil moisture, and makes suggestions as to modifications of its use.

The Jack Rabbits of the United States. By T. S. Palmer, M. D., Assistant Chief, Biological Survey. Pp. 88, figs. 3, pls. 6. (Bulletin No. 8, Division of Biological Survey.) Revised edition. Price 10 cents.

Contains a general account of the distribution and habits of the various species in the United States; a review of the methods used to exterminate the animals and to protect crops; and facts and figures concerning the economic uses of rabbits in general.

Some Miscellaneous Results of the Work of the Division of Entomology. Prepared under the direction of L. O. Howard, Entomologist. Pp. 99, figs. 19. (Bulletin No. 10, new series, Division of Entomology.) Price 10 cents.

Contains articles on the following subjects: The peach twig-borer—The fig-eater or green June beetle—Cucumber beetles—The sugar-cane borers of Java—Two Japanese insects injurious to fruit—Destructive locusts in 1897—Insects that affect asparagus—The house fly—Buffalo gnats—Habits of Oscinidæ and Agrozymidæ—Tobacco flea-beetle—Strawberry weevil. Also there are numerous general notes.

Forest Growth and Sheep Grazing in the Cascade Mountains of Oregon. By Frederick V. Coville. Pp. 54. (Bulletin No. 15, Division of Forestry.) Price 5 cents.

A report of a trip by a Government party through Cascade Range Forest Reserve during the summer of 1897 for the purpose of determining the effect of sheep grazing upon the forests, especially as to the origination of fires. A plan for the continued use of the reserve for sheep grazing, without loss and under satisfactory conditions, is presented.

Recent Laws against Injurious Insects in North America, together with the Laws relative to Foul Brood. Compiled by L. O. Howard, Entomologist. Pp. 68. (Bulletin No. 13, new series, Division of Entomology.) Price 5 cents.

CONTENTS: Laws against insects of California, Colorado, Georgia, Idaho, Kentucky, Louisiana, Maryland, Michigan, North Carolina, Ohio, Oregon, Pennsylvania, Utah, Virginia, and Washington—Proposed national legislation—British-American laws against insects—Laws relative to foul brood of California, Colorado, Michigan, Nebraska, New York, Utah, Wisconsin, and Ontario, Canada—Proposed State laws against San Jose Scale and foul brood of Minnesota and Florida.

List of Officials and Associations connected with the Dairy Interests in the United States and Canada for 1898. Pp. 8. (Circular No. 22, Bureau of Animal Industry.)

The Fruit-tree Bark-beetle. By F. H. Chittenden, Assistant Entomologist. Pp. 8, figs. 4. (Circular No. 29, second series, Division of Entomology.)

General characteristics and methods of work, distribution, and life history are given, together with notes as to prevention and remedy.

The Principal Insect Enemies of the Grape. By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 23, figs. 12. (Farmers' Bulletin No. 70. Reprint from Yearbook 1895.)

CONTENTS: The grapevine phylloxera—The grapevine fidia—The grape cane-borer—The grapevine flea beetle—The rose chafer—The grape leaf-folder—Hawk moths and cutworms—The grape leaf-hopper—The grape-berry moth.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Weather Review. Annual Summary for 1897. Vol. XXV, No. 13. Pp. vii, 569–579, charts 7. (Weather Bureau.) Price 10 cents.

Monthly Weather Review. January, 1898. Vol. XXVI, No. 1. Pp. 1–43, charts 13. (Weather Bureau.) Price 10 cents.

Charts of the Weather Bureau—

Snow and ice charts for Monday, March 7, 14, 21, 28.

(These charts are issued weekly on Tuesdays during the winter season, based upon data from regular Weather Bureau Stations, supplemented by reports from selected voluntary observers.)

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (No. 2, for the month of February, 1898.)

Meteorological Chart of the Great Lakes.

(List of Wind Signal Stations on the Lakes, both American and Canadian, with table of maximum of observed wind velocities on the lakes in April, May, and June, and advices as to April storms and storm tracks.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

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The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the **number** and **title** of the publication desired.

The Department has no list to whom all publications are sent; the variety of the subjects treated naturally restricts the distribution of most of them to the sections of country to which they are especially suitable and to specialists. The Monthly List of Publications, issued the first of each month, will be mailed to all who apply for it. In it the titles of the publications are given with a note explanatory of the character of each, thus enabling the reader to make intelligent application for such bulletins and reports as are certain to be of interest to him.

The Department can not undertake to furnish complete sets of either Farmers' Bulletins or other publications.

For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.

For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

SUPERINTENDENT OF DOCUMENTS,
UNION BUILDING,
WASHINGTON, D. C.,

accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

The Superintendent of Documents is not permitted to sell more than one copy of any public document to the same person.

The Superintendent of Documents is not an official of the Department of Agriculture.

Applications for all other publications of this Department should be addressed to the Secretary of Agriculture, Washington, D. C.

Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *April 30, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[April, 1898.]

(See accompanying notes regarding Department publications.)

Methods of Curing Tobacco. By Milton Whitney, Chief of Division of Soils. Pp. 16. (Farmers' Bulletin No. 60.) Revised edition.

A review of the methods in practice among farmers in the different tobacco-growing sections of the United States, with suggestions as to most advantageous ways in view of requirements of the markets; also contains notes on soils and cultivation for several sections.

Alfalfa, or Lucern. By Jared G. Smith, Assistant Agrostologist. Pp. 23, figs. 3. (Farmers' Bulletin No. 31.) Revised edition.

A discussion of the history, varieties, habits of growth, planting, killing of weeds, and curing of alfalfa. The feeding value, benefit as a renovator of the soil, the chemical composition, and the diseases and animal pests are also treated; and there are paragraphs on soiling as compared with pasturing, the use of alfalfa in the orchard, cutting for seed and destroying the plant when another crop is wanted.

Cattle Ranges of the Southwest: A History of the Exhaustion of the Pasturage and Suggestions for Its Restoration. By H. L. Bentley, Special Agent in charge of the Grass Station at Abilene, Tex. Pp. 32, figs. 9. (Farmers' Bulletin No. 72.)

A history of the early occupation and reckless use of the public and other open lands of Texas; a brief review of the boom in the cattle business with the consequent overstocking and disaster, and suggestions for the renewing of the grasses. The closing third of the bulletin is taken up with a descriptive list of promising native grasses and forage plants.

The Grain Smuts: How They Are Caused and How to Prevent Them. By Walter T. Swingle, Special Agent, Division of Vegetable Physiology and Pathology. Pp. 20, figs. 8. (Farmers' Bulletin No. 75.)

CONTENTS: Introductory—Kinds of smut—Directions for treating seed for smuts—Directions for drying treated seed—Extra increase in yield as a result of seed treatment—Duty of seedsmen—Summary.

Statistics of the Land-Grant Colleges and Agricultural Experiment Stations in the United States for the Year Ending June 30, 1897. Prepared in the Office of Experiment Stations. Pp. 39. (Bulletin No. 51, Office of Experiment Stations.) Price 5 cents.

Contains summaries of statistics of land-grant colleges and agricultural experiment stations, including revenues and additions to equipments in 1897 and expenditures of the United States appropriation.

American Ginseng: Its Commercial History, Protection, and Cultivation. By George V. Nash. Revised and extended by Maurice G. Kains. Pp. 32, figs. 5. (Bulletin No. 16, Division of Botany.) Revised edition. Price 5 cents.

CONTENTS: History—Description—Range—Medicinal properties—Commercial value—Exportation—Protection—Cultivation—Improvement of the root—Chemical analysis—The cultivated root—Selection and preparation of the root—Profits—Adulteration and fraud.

Bird Day in the Schools. By T. S. Palmer, Acting Chief, Division of Biological Survey. Pp. 4. (Circular No. 17, Division of Biological Survey.)

A history of the establishment of the day, with its object and value.

Notes on the Employment of Convicts in Connection with Road Building. Compiled by Roy Stone, Director. Pp. 21, figs. 4. (Bulletin No. 16, Office of Road Inquiry.) Revised edition. Price 5 cents.

A discussion of the use of convicts on the roads in North Carolina, with an extract from the North Carolina law, the text of the new Delaware law and the provisions of the proposed laws in California and Iowa. Arguments for and against the employment of convict labor in road making are presented.

The Inspection of Meats for Animal Parasites; I—The Flukes and Tapeworms of Cattle, Sheep, and Swine, with Special Reference to the Inspection of Meats, by Ch. Wardell Stiles; II—Compendium of the Parasites, Arranged according to Their Hosts, by Albert Hassall; III—Bibliography of the More Important Works. Prepared under the Direction of Dr. D. E. Salmon, Chief of the Bureau of Animal Industry. Issued February 8, 1898. Pp. 161, figs. 124. (Bulletin No. 19, Bureau of Animal Industry.) Reprint. Price 10 cents.

Intended primarily for the use of meat inspectors of the Bureau, but is of general interest to sanitarians. It treats in part of the communicability of certain parasites from animals to man and suggests methods of prevention and treatment. The subject of the infestation of cattle, sheep, and swine with flukes and tapeworms is reviewed exhaustively and remedies are suggested.

Tobacco Soils of the United States: A Preliminary Report upon the Soils of the Principal Tobacco Districts. By Milton Whitney, Chief of the Division of Soils. Pp. 47, pls. 13. (Bulletin No. 11, Division of Soils.) Price 10 cents.

A presentation of the statistics of tobacco culture introductory to a discussion of the relation of climate to the distribution of the different classes of tobacco and a full review of the soils of the tobacco sections of the United States, covering especially water content and mechanical composition.

Commercial Fertilizers: Composition and Use. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture in Rutgers College. Under the Supervision of the Office of Experiment Stations. Pp. 24. (Farmers' Bulletin No. 44.) Reprint.

CONTENTS: Need of commercial fertilizers—Fertilizer requirements of different soils and crops—Forms, sources, and composition of fertilizing materials—Agricultural *v.* commercial fertilizers—Variations in composition of manufactured fertilizers—Purchase of fertilizers—Conditions of profitable use—Kind of fertilizers to use—Fertilizers should be applied systematically—Summary.

Hog Cholera and Swine Plague. By D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry. Pp. 16. (Farmers' Bulletin No. 24.) Reprint.

A succinct review of general character and symptoms of the diseases, post-mortem conditions, and causes, with formula for remedy, directions for treatment and suggestions for sanitary measures for prevention of infection.

Facts about Milk. By R. A. Pearson, Assistant Chief, Dairy Division, Bureau of Animal Industry. Pp. 29, figs. 8. (Farmers' Bulletin No. 42.) Reprint.

A review of the composition of milk and variations with their causes; adulteration, use of preservatives, and pasteurization; instruments for detecting impurities and their use; and care in milking, in transportation and in delivery. Several improvements are suggested.

Insects Affecting the Cotton Plant. By L. O. Howard, Ph. D., Entomologist. Pp. 32, figs. 18. (Farmers' Bulletin No. 47.) Reprint, with revision by the author.

Furnishes description, parasites and natural enemies, and remedies for the cotton worm, or cotton caterpillar, the cotton boll worm, and the Mexican cotton boll weevil. Some pages are devoted also to cut worms, plant lice, leaf-feeding caterpillars, and other insects.

Flax for Seed and Fiber in the United States. By Chas. Richards Dodge, Special Agent for Fiber Investigations. Pp. 16. (Farmers' Bulletin No. 27.) Reprint.

A discussion of flax growing in the United States, including soil selection, preparation, fertilization, sowing, harvesting, and retting, and notes on weeds and meteorological conditions.

The Cultivated Vetches. By Jared G. Smith, Assistant Agrostologist. Pp. 7, figs. 4. (Circular No. 6, Division of Agrostology.) Reprint.

Description and method of cultivation of: Hairy vetch—Spring vetch—Winter vetch—Kidney vetch.

The Periodical Cicada in 1898. By E. A. Schwarz, Assistant Entomologist. Pp. 3. (Circular No. 30, Second Series, Division of Entomology.)

Announcement of appearance of two broods to be expected, with list of localities where the locusts have been reported to the Department to have formerly appeared.

Monthly List of Publications, March, 1898. Pp. 4. (No. 261. Division of Publications.)

A list of publications issued during March by the United States Department of Agriculture.

Experiment Station Record, Vol. IX, No. 8. Pp. vi, 301–800. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Spain's Foreign Trade. Prepared by Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 47. (Bulletin No. 11, Section of Foreign Markets.) Price 5 cents.

A review of the shipping, navigation interests, and commerce of Spain, taken directly from Spanish official reports. A careful analysis is made of the statistics, and the source as well as the destination of Spain's exports is made plain. The roads of travel of her ships can also be made out with some certainty from the facts presented.

Our Trade with Spain, 1888-1897. Prepared by Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 47. (Bulletin No. 12, Section of Foreign Markets.) Price 5 cents.

A review of commerce between the United States and Spain, taken largely from American customs reports. A full presentation of the facts, including Spain's shipping relations with the United States, with analysis of the statistics.

Final Report on the Crops of 1897. By John Hyde, Statistician. Pp. 30. (New Series, Report No. 155, Division of Statistics.)

Furnishes the acreage, production, and value of the principal crops, corn, wheat, oats, barley, rye, buckwheat, potatoes, hay, and tobacco, together with a table by States of farm prices and the records of temperature and rainfall for the crop season.

The Milk Supply of Boston and Other New England Cities. By George M. Whitaker, M. A., Special Expert Agent, Dairy Division. Under the direction of Dr. D. E. Salmon, Chief of the Bureau of Animal Industry. Pp. 37, pls. 3, figs. 4. (Bulletin No. 20, Bureau of Animal Industry.) Price 10 cents.

CONTENTS: Population—Milk supply, including transportation, distribution and statistics of Boston, Providence, and other New England cities—Cream trade—Skim milk—Condensed milk—Milk consumption per capita—Milk laws and inspection—Quality of milk sold, and need of advanced practices. The first plate is a map showing the sources of supply of Boston.

Cowpeas. By Jared G. Smith, Assistant Agrostologist. Pp. 11. (Circular No. 5, Division of Agrostology.) Revised edition.

CONTENTS: Origin and general considerations—Varieties—Methods of cultivation—Harvesting—Yield and value—Fertilizers—The feeding value of cowpeas—Cowpeas for forage—Cowpeas for swine and cattle—Cowpeas for ensilage—Cowpeas and soil renovation—Summary.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Abstract of a Report on Solar and Terrestrial Magnetism in Their Relations to Meteorology. Prepared under the direction of Willis L. Moore, Chief of Weather Bureau, by Frank H. Bigelow, Professor of Meteorology. Pp. 176, charts 39. (Bulletin No. 21. Edition limited to 1,000 copies by section 89 of the printing act of January 12, 1895. No supply.) Price 15 cents.

A scientific review of the magnetic relations of the sun and the earth, with special reference to weather forecasting.

Monthly Weather Review. February, 1898. Vol. XXVI, No. 2.
Pp. 45-89, charts 10. Price 10 cents.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (No. 3, for the month of March, and Nos. 4, 5, and 6 for the month of April, 1898.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

Meteorological Chart of the Great Lakes.

(List of Wind Signal Stations on the Lakes, both American and Canadian, with table of maximum of observed wind velocities on the lakes in April, May, and June, and advices as to May storms and storm tracks.)

Monthly Report of the River and Flood Service for February, 1898.

Prepared under the direction of Willis L. Moore, Chief of Weather Bureau, by Park Morrill, Forecast Official in charge of River and Flood Service. Pp. 14, chart 1. (No. 156.)

Monthly Bulletin of the River and Flood Service for March, 1898.

Prepared under the direction of Willis L. Moore, Chief of the Weather Bureau, by Park Morrill, Forecast Official in charge of River and Flood Service. Pp. 19, chart 1. (No. 158.)

PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during April, but no copies can be obtained by application to the Department. In some cases copies can be secured of Congressmen.)

Nut Culture in the United States, Embracing Native and Introduced Species. Special report prepared in the Division of Pomology. Pp. 144, figs. 2, pls. 16. Reprint; only 1,000 copies under restriction of section 89, printing act of January 12, 1895. Price 30 cents.

Operations of the Bureau of Animal Industry. Letter from the Secretary of Agriculture Transmitting the Report of the Operations of the Bureau of Animal Industry for the fiscal year ending June 30, 1897. (Document No. 227, House of Representatives, 55th Congress, 2d Session.)

Agricultural Education and Research in the Scandinavian Countries and Finland. By F. W. Woll, Assistant Professor of Agricultural Chemistry, University of Wisconsin. Pp. 605-619, figs. 6. Reprinted from Experiment Station Record, Vol. IX, Nos. 7 and 8.

GEO. WM. HILL,
Chief.

Approved:

JAMES WILSON,
Secretary.

NOTES REGARDING DEPARTMENT PUBLICATIONS.

The publications of the United States Department of Agriculture are of three classes: (1) Serial publications; (2) scientific and technical reports; and, (3) popular bulletins.

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For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

SUPERINTENDENT OF DOCUMENTS,
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WASHINGTON, D. C.,

accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

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The Superintendent of Documents is not an official of the Department of Agriculture.

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Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents.

FARMERS' BULLETINS.

These bulletins are sent free of charge to any address upon application to the Secretary of Agriculture, Washington, D. C.

[Only the bulletins named below are available for distribution.]

- No. 15. Some Destructive Potato Diseases: What They Are and How to Prevent Them. Pp. 8.
- No. 16. Leguminous Plants for Green Manuring and for Feeding. Pp. 24.
- No. 18. Forage Plants for the South. Pp. 30.
- No. 19. Important Insecticides: Directions for Their Preparation and Use. Pp. 23.
- No. 20. Washed Soils: How to Prevent and Reclaim Them. Pp. 22.
- No. 21. Barnyard Manure. Pp. 32.
- No. 22. Feeding Farm Animals. Pp. 32.
- No. 24. Hog Cholera and Swine Plague. Pp. 16.
- No. 27. Flax for Seed and Fiber. Pp. 16,
- No. 28. Weeds; and How to Kill Them. Pp. 30.
- No. 29. Souring of Milk and Other Changes in Milk Products. Pp. 23.
- No. 30. Grape Diseases on the Pacific Coast. Pp. 16.
- No. 31. Alfalfa, or Lucern. Pp. 23.
- No. 32. Silos and Silage. Pp. 31.
- No. 33. Peach Growing for Market. Pp. 24.
- No. 34. Meats: Composition and Cooking. Pp. 29.
- No. 35. Potato Culture. Pp. 23.
- No. 36. Cotton Seed and Its Products. Pp. 16.
- No. 37. Kafir Corn: Characteristics, Culture, and Uses. Pp. 12.
- No. 38. Spraying for Fruit Diseases. Pp. 12.
- No. 39. Onion Culture. Pp. 31.
- No. 40. Farm Drainage. Pp. 24.
- No. 41. Fowls: Care and Feeding. Pp. 24.
- No. 42. Facts about Milk. Pp. 29.
- No. 43. Sewage Disposal on the Farm. Pp. 20.
- No. 44. Commercial Fertilizers. Pp. 24.
- No. 45. Some Insects Injurious to Stored Grain. Pp. 32.
- No. 46. Irrigation in Humid Climates. Pp. 27.
- No. 47. Insects Affecting the Cotton Plant. Pp. 32.
- No. 48. The Manuring of Cotton. Pp. 16.
- No. 49. Sheep Feeding. Pp. 24.
- No. 50. Sorghum as a Forage Crop. Pp. 20.
- No. 51. Standard Varieties of Chickens. Pp. 48,
- No. 52. The Sugar Beet. Pp. 48.
- No. 53. How to Grow Mushrooms. Pp. 20.
- No. 54. Some Common Birds in Their Relation to Agriculture. Pp. 40.
- No. 57. Butter Making on the Farm. Pp. 15.
- No. 58. The Soy Bean as a Forage Crop. Pp. 24.
- No. 59. Bee Keeping. Pp. 32.
- No. 60. Methods of Curing Tobacco. Pp. 16.
- No. 62. Marketing Farm Produce. Pp. 28.
- No. 64. Ducks and Geese. Pp. 48.
- No. 65. Experiment Station Work—II. Pp. 32.
- No. 66. Meadows and Pastures. Pp. 24.
- No. 67. Forestry for Farmers. Pp. 48.
- No. 68. The Black Rot of the Cabbage. Pp. 22.
- No. 69. Experiment Station Work—III. Pp. 32.
- No. 70. The Principal Insect Enemies of the Grape. Pp. 23.
- No. 72. Cattle Ranges of the Southwest. Pp. 32.
- No. 75. The Grain Smuts. Pp. 20.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *May 31, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[May, 1898.]

(See accompanying notes regarding Department publications.)

Yearbook of the U. S. Department of Agriculture, 1897. Pp. 792, pls. 40, figs. 45.

Contains (1) The Annual Report of the Secretary of Agriculture for the fiscal year 1897, comprising pages 1-58; (2) a series of papers setting forth the work of the several Bureaus, Offices, and Divisions, under the general title "Work of the Department for the Farmer," comprising pages 59-278; (3) eighteen "Miscellaneous Papers" prepared by the Chiefs of the Bureaus, Offices, and Divisions and their expert assistants, illustrating the extent and variety of the scientific work of the Department, comprising pages 279-618; (4) an appendix of 142 pages (pp. 619-760), containing miscellaneous information and agricultural statistics, embracing also condensed statements of a variety of subjects relating to agriculture; (5) an index of 32 pages (pp. 761-792).

The small quota (only 6 per cent) of this publication assigned to this Department is insufficient to supply even its regular correspondents and coworkers, and miscellaneous applicants are therefore respectfully referred to their Senators, Representatives, and Delegates in Congress, to whom the other 94 per cent is allotted for distribution. The Superintendent of Documents also has them for sale at 60 cents per copy.

The Fertilizer Industry. Prepared by George K. Holmes, Assistant Statistician, under the direction of John Hyde, Statistician. Pp. 27. (Miscellaneous series, Bulletin No. 13, Division of Statistics.) Price 5 cents.

A review of statistics of production and consumption, with abstracts of State laws relating to the analysis and sale of fertilizers.

Historical Sketch of the U. S. Department of Agriculture; Its Objects and Present Organization. Compiled by Charles H. Great-house, of the Division of Publications. Pp. 74, pls. 2, figs. 9. (Bulletin No. 3, Division of Publications.)

Chicory Growing as an Addition to the Resources of the American Farmer. By Maurice G. Kains. Pp. 52, figs. 12. (Bulletin No. 19, Division of Botany.) Price 5 cents.

Discusses the question whether or not chicory can be made a profitable crop in the United States, with suggestions as to growing and handling the crop.

The Cultivated Vetches. By Jared G. Smith, Assistant Agrostologist. Pp. 8, figs. 6. (Circular No. 6, Division of Agrostology.) Revised edition.

Description and method of cultivation of hairy vetch, spring vetch, winter vetch, kidney vetch, Dakota vetch, bird vetch.

A Report upon the Grasses and Forage Plants of Central Texas. By H. L. Bentley, Special Agent in Charge of Grass Experiments at Abilene, Tex. Prepared under the direction of the Agrostologist. Pp. 38, figs. 14. (Bulletin No. 10, Division of Agrostology.) Price 5 cents.

An account of the physical character of central Texas; the early and present condition of the ranges; and descriptions and general observations upon the distribution and economic importance of a large number of the grasses and forage plants native to the region.

The Striped-Cucumber Beetle. By F. H. Chittenden, Assistant Entomologist. Pp. 7, figs. 2. (Circular No. 31, second series, Division of Entomology.)

A description of the beetle; its life, habits, and nature of attack; and mention of some remedies.

Of What Service are Statistics to the Farmer. By John Hyde, Statistician. Pp. i-iii, 258-270. (Bulletin No. 14, Division of Statistics.) Price 5 cents.

A brief statement of the objects and work of the Division of Statistics, especially in its relation to the farmer.

Dodders Infesting Clover and Alfalfa. By Lyster H. Dewey, Assistant, Division of Botany. Pp. 7, figs. 2. (Circular No. 14, Division of Botany.)

Gives the number of species found in the United States; range of injurious species and methods of eradication.

Fig Culture—Edible Figs: Their Culture and Curing. By Gustav Eisen; and Fig Culture in the Gulf States. By Frank S. Earle. Pp. 32. (Bulletin No. 5, Division of Pomology.) Reprint. Price 5 cents.

Spain's Foreign Trade. By Frank H. Hitchcock. Pp. 47. (Bulletin No. 11, Section of Foreign Markets.) Reprint. Price 5 cents.

Our Trade with Spain, 1888-1897. By Frank H. Hitchcock. Pp. 47. (Bulletin No. 12, Section of Foreign Markets.) Reprint. Price 5 cents.

Hawaiian Commerce from 1887 to 1897. By Frank H. Hitchcock. Pp. 37. (Circular No. 18—Revised, Section of Foreign Markets.) Reprint.

Progress in Timber Physics. By B. E. Fernow, Chief of Division of Forestry. Pp. 20, diagrams 11. (Circular No. 18, Division of Forestry.)

A review of various tests of timber to determine its strength under different conditions; also an article by S. T. Neely, C. E., on "Relation of Compression-Endwise Strength to Breaking Load of Beam."

Crop Circular for May, 1898. By John Hyde, Statistician. Pp. 3. (Circular, Division of Statistics.)

Report of acreage or condition of winter wheat, rye, cotton, meadows and spring pasture and proportion of spring plowing done May 1st.

Monthly List of Publications, April, 1898. Pp. 7. (No. 263, Division of Publications.)

A list of publications issued during April by the United States Department of Agriculture.

Accessions to the Department Library. January–March, 1898. Pp. 38. (Library Bulletin No. 22.) Price 5 cents.

A list of books and other publications added to the Library of the U. S. Department of Agriculture from January to March, 1898.

Forestry Conditions and Interests of Wisconsin. By Filibert Roth, Special Agent, with a discussion by B. E. Fernow, Chief, Division of Forestry. Pp. 76, map 1. (Bulletin No. 16, Division of Forestry.) Price 10 cents.

The results of an investigation made during the summer of 1897, showing the physiography of the area, topography, soils, climate, and drainage, forest conditions of the past and present, coniferous and hardwood supplies, list of forest trees of north Wisconsin and other matters pertaining to the forestry interests of the State.

Nutrition Investigation in Pittsburg, Pa., 1894–1896. By Isabel Bevier, Professor of Natural Science in the College for Women, Pittsburg. Pp. 48. (Bulletin No. 52, Office of Experiment Stations.) Price 5 cents.

A report of studies of dietaries of men in professional life, mechanics, and day laborers; composition and prices of bakers' bread in Pittsburg; and the composition of bread and the changes which the materials undergo in baking.

Experiment Station Record, Vol. IX, No. 9. Pp. vii, 801–900. Price 10 cents.

Experiment Station Record, Vol. IX, No. 10. Pp. v, 901–1000. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Report of the River and Flood Service for April, 1898. Prepared under the direction of Willis L. Moore, Chief of the Weather Bureau, by Park Morrill, Forecast Official in charge of River and Flood Service. Special Reports on the Saving of Life and Property in the Mississippi Valley, as a result of Weather Bureau warnings, during the spring of 1897. Pp. 30, chart 1.

Report of the Chief of the Weather Bureau, 1896–97. Part II—Climatology. Pp. 18–123.

Hourly averages of atmospheric pressure, temperature, and wind from the records of self-recording instruments at twenty-eight stations.

Report of the Chief of the Weather Bureau, 1896-97. Part III—
Climatology. Pp. 124-199.

Monthly and annual meteorological summaries.

Report of the Chief of the Weather Bureau, 1896-97. Part IV—
Climatology. Pp. 200-234.

Monthly and annual mean temperature and annual extremes of temperature,
together with the dates of first and last killing frost.

Report of the Chief of the Weather Bureau, 1896-97. Part V—
Climatology. Pp. 235-273.

Monthly and annual precipitation. All stations.

Report of the Chief of the Weather Bureau, 1896-97. Part VI—
Climatology. Pp. 274-313, charts 22.

Miscellaneous meteorological tables. Charts and reports illustrating the
weather of 1896.

Monthly Weather Review. March, 1898. Vol. XXVI, No. 3.
Pp. 91-137, charts 13. Price 10 cents.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1898), reporting temperature and rain-
fall, with special reference to their effect on crops. (Nos. 7, 8, 9, 10, and 11
for the month of May, 1898.)

Daily Weather Map showing weather conditions throughout the United
States and giving forecasts of probable changes.

Meteorological Chart of the Great Lakes.

(List of Wind Signal Stations on the Lakes, both American and Canadian,
with table of maximum of observed wind velocities on the lakes in April, May,
and June, and advices as to June storms and storm tracks.)

FARMERS' BULLETINS.

The Feeding of Farm Animals. By E. W. Allen, Ph. D., Office
of Experiment Stations. Pp. 32. (Farmers' Bulletin No. 22.)
Reprint.

Foods: Nutritive Value and Cost. By W. O. Atwater, Ph. D.,
Office of Experiment Stations. Pp. 32. (Farmers' Bulletin No.
23.) Reprint.

Weeds: And How to Kill Them. By Lyster H. Dewey, Division of
Botany. Pp. 31, figs. 11. (Farmers' Bulletin No. 28.) Reprint.

Potato Culture. By J. F. Duggar, Office of Experiment Stations.
Pp. 24, figs. 2. (Farmers' Bulletin No. 35.) Reprint.

Fowls: Care and Feeding. By G. C. Watson, B. Agr., M. S.,
Office of Experiment Stations. Pp. 24, figs. 4. (Farmers' Bul-
letin No. 41.) Reprint.

Standard Varieties of Chickens. By George E. Howard, Bureau
of Animal Industry. Pp. 48, figs. 42. (Farmers' Bulletin No.
51.) Reprint.

Some Common Birds in Their Relation to Agriculture. By F. E. L.
Beal, B. S., Division of Biological Survey. Pp. 40, figs. 22.
(Farmers' Bulletin No. 54.) Reprint.

The Dairy Herd: Its Formation and Management. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. Pp. 24. (Farmers' Bulletin No. 55.) Reprint.

Butter Making on the Farm. By C. P. Goodrich, Bureau of Animal Industry. Pp. 15. (Farmers' Bulletin No. 57.) Reprint.

Care of Milk on the Farm. By R. A. Pearson, B. S., Bureau of Animal Industry. Pp. 40, figs. 9. (Farmers' Bulletin No. 63.) Reprint.

Ducks and Geese: Standard Breeds and Management. By George E. Howard, Bureau of Animal Industry. Pp. 48, figs. 37. (Farmers' Bulletin No. 64.) Reprint.

Some Essentials in Beef Production. By Charles F. Curtiss, Director of the Iowa Agricultural Experiment Station. Pp. 24, figs. 17. (Farmers' Bulletin No. 71.)

A brief consideration of the qualities of practical excellence in beef cattle, and suggestions as to selection and a comparison of various types of beef cattle.

Experiment Station Work—IV. Prepared in the Office of Experiment Stations. Pp. 32, figs. 3. (Farmers' Bulletin No. 73.)

CONTENTS: Pure water—Loss of soil fertility—Availability of fertilizers—Seed selection—Jerusalem artichokes—Kafir corn—Thinning fruit—Use of low-grade apples—Cooking vegetables—Condimental feeding stuffs—Steer and heifer beef—Swells in canned vegetables.

Milk as Food. Prepared in the Office of Experiment Stations. Pp. 39, charts 2. (Farmers' Bulletin No. 74.)

Treats of the nutritive value of milk and contains suggestions as to combinations with other food materials to make well-balanced and economical dietaries.

Experiment Station Work—V. Prepared in the Office of Experiment Stations. Pp. 32. (Farmers' Bulletin No. 78.)

CONTENTS; Humus in soils—Swamp, marsh or muck soils—Rape—Velvet bean—Sunflowers—Winter protection of peach trees—Subwatering in green-houses—Bacterial disease of plants—Grape juice and sweet cider.

PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during May, but no copies can be obtained by application to the Department.)

The Weather Bureau. By Willis Moore, Chief. Pp. i-iii, 60-76. (Reprint from Yearbook of Department of Agriculture for 1897.)

Division of Chemistry. By H. W. Wiley, Chemist. Pp. i-iii, 76-84. (Reprint from Yearbook of Department of Agriculture for 1897.)

Division of Entomology. By L. O. Howard, Entomologist. Pp. i-iii, 84-89. (Reprint from Yearbook of Department of Agriculture for 1897.)

Division of Botany. By Frederick V. Coville, Botanist. Pp. i-iii, 90-99. (Reprint from Yearbook of Department of Agriculture for 1897.)

- Division of Vegetable Physiology and Pathology. By B. T. Gallo-
way, Chief. Pp. i-iii, 99-111. (Reprint from Yearbook of De-
partment of Agriculture for 1897.)
- Division of Pomology. By G. B. Brackett, Pomologist. Pp. i-iii,
111-115. (Reprint from Yearbook of Department of Agriculture
for 1897.)
- Division of Soils. By Milton Whitney, Chief. Pp. i-iii, 122-135.
(Reprint from Yearbook of Department of Agriculture for 1897.)
- Office of Experiment Stations. By A. C. True, Director. Pp. i-iii,
135-143. (Reprint from Yearbook of Department of Agriculture
for 1897.)
- Division of Forestry. By B. E. Fernow, Chief. Pp. i-iii, 143-160.
(Reprint from Yearbook of Department of Agriculture for 1897.)
- Division of Agrostology. By F. Lamson-Scribner, Agrostologist.
Pp. i-iii, 160-175. (Reprint from Yearbook of Department of
Agriculture for 1897.)
- Office of Road Inquiry. By Roy Stone, Director of Office of Road
Inquiry. Pp. i-iii, 175-180; and Object-Lesson Roads. By Roy
Stone, Director of Office of Road Inquiry. Pp. i-iii, 373-382.
(Reprint from Yearbook of Department of Agriculture for 1897.)
- Experimental Gardens and Grounds. By William Saunders, Super-
intendent. Pp. i-iii, 180-204. (Reprint from Yearbook of De-
partment of Agriculture for 1897.)
- Division of Publications. By Geo. Wm. Hill, Department Editor.
Pp. i-iii, 204-220. (Reprint from Yearbook of Department of
Agriculture for 1897.)
- The Library. By W. P. Cutter, Librarian. Pp. i-iii, 220-224.
(Reprint from Yearbook of Department of Agriculture for 1897.)
- Office of Fiber Investigations. By Chas. Richards Dodge, Special
Agent. Pp. i-iii, 224-235. (Reprint from Yearbook of Depart-
ment of Agriculture for 1897.)
- Bureau of Animal Industry. By D. E. Salmon, Chief. Pp. i-iii,
236-258. (Reprint from Yearbook of Department of Agriculture
for 1897.)
- Section of Foreign Markets. By Frank H. Hitchcock, Chief. Pp.
i-iii, 270-278. (Reprint from Yearbook of Department of Agri-
culture for 1897.)
- Popular Education for the Farmer in the United States. By A. C.
True, Ph. D., Director of the Office of Experiment Stations. Pp.
i-iii, 279-290. (Reprint from Yearbook of Department of Agri-
culture for 1897.)
- Every Farm an Experiment Station. By Ervin E. Ewell, First As-
sistant, Division of Chemistry. Pp. i-iii, 291-304. (Reprint from
Yearbook of Department of Agriculture for 1897.)

Birds that Injure Grain. By F. E. L. Beal, Assistant Biologist,
Biological Survey. Pp. i-iii, 345-354. (Reprint from Yearbook
of Department of Agriculture for 1897.)

Origin and Formation of Organic Matter in Plants. By P. P. De-
héren, Member of the Institute of France. Pp. 903-916. (Re-
printed from Experiment Station Record, Vol. IX, No. 10.)

GEO. WM. HILL,
Chief.

Approved:

JAMES WILSON,
Secretary.

NOTES REGARDING DEPARTMENT PUBLICATIONS.

The publications of the United States Department of Agriculture are of three classes: (1) Serial publications; (2) scientific and technical reports; and, (3) popular bulletins.

The first two classes are issued in limited editions and are not intended for general distribution, being particularly designed for scientific students and for libraries and institutions of learning. They are distributed free to persons cooperating with or rendering the Department some service. Sample copies will be sent if requested, but miscellaneous applicants should apply to the Superintendent of Documents, Union Building, Washington, D. C., to whom all publications not needed for official use, except circulars and bulletins printed by law for free distribution, are turned over in accordance with the following provision of the act providing for the public printing and binding and the distribution of public documents, viz:

SEC. 67. All documents at present remaining in charge of the several Executive Departments, bureaus, and offices of the Government not required for official use shall be delivered to the Superintendent of Documents, and hereafter all public documents accumulating in said Departments, bureaus, and offices not needed for official use shall be annually turned over to the Superintendent of Documents for distribution or sale.

The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the **number** and **title** of the publication desired.

The Department has no list to whom all publications are sent; the variety of the subjects treated naturally restricts the distribution of most of them to the sections of country to which they are especially suitable and to specialists. The Monthly List of Publications, issued the first of each month, will be mailed to all who apply for it. In it the titles of the publications are given with a note explanatory of the character of each, thus enabling the reader to make intelligent application for such bulletins and reports as are certain to be of interest to him.

The Department can not undertake to furnish complete sets of either Farmers' Bulletins or other publications.

For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.

For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

SUPERINTENDENT OF DOCUMENTS.

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accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

The Superintendent of Documents is not permitted to sell more than one copy of any public document to the same person.

The Superintendent of Documents is not an official of the Department of Agriculture.

Applications for all other publications of this Department should be addressed to the Secretary of Agriculture, Washington, D. C.

Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents; Yearbook 1897, 60 cents.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *June 30, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[June, 1898.]

Crop Circular for June, 1898. By John Hyde, Statistician. Pp. 4.
(Circular, Division of Statistics.)

Report on acreage and condition of spring wheat, winter wheat, oats, barley, rye, cotton, rice, and clover; and condition of spring pasture, peaches, and apples. Also summary of climatic conditions during the spring of 1898.

Horse-Radish. By M. G. Kains. Pp. 8. (Circular No. 15, Division of Botany.)

A description of the plant, its origin, uses, and culture.

Increasing the Durability of Timber. By B. E. Fernow, Chief, Division of Forestry. Pp. 5. (Circular No. 20, Division of Forestry.)

A review of the causes of the decay of wood and some suggestions as to methods to be used to increase its durability.

Our Trade with Cuba from 1887 to 1897. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 30. (Circular No. 16, Section of Foreign Markets.) 1898. Reprint.

Nutrition Investigations at the University of Tennessee in 1896 and 1897. By Chas. E. Wait, Ph. D., F. C. S., Professor of Chemistry in the University of Tennessee. (Bulletin No. 53, Office of Experiment Stations.) Pp. 46, figs. 2. Price 5 cents.

Results of an inquiry regarding the composition of beef, of mutton, and of the flesh of chickens, including also studies of the dietaries of mechanics' families and students' clubs; and a number of digestion experiments with men.

A Preliminary Report on The Soils of Florida. By Milton Whitney, Chief of Division of Soils. Pp. 31, pls. 6, figs. 3. (Bulletin No. 13, Division of Soils.) Price 5 cents.

Brief descriptions of the principal types of Florida soils and the characteristic vegetation; a discussion of the chemical composition, of the physical texture, and the water content of the soil considered with reference to the marked difference in the agricultural value.

Experiment Station Record, Vol. IX, No. 11. Pp. v, 1001-1100. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Bibliography of the More Important Contributions to American Entomology. By Nathan Banks. Part VI—The More Important Writings Published Between June 30, 1888, and December 30, 1896. A-W. Pp. 273.

This part brings the whole bibliography down to the close of the calendar year 1896. Limited Congressional edition—not for general circulation.

Proceedings of the Fourteenth Annual Convention of the Association of Official Agricultural Chemists held at Washington, D. C., October 26, 27, and 28, 1897. Edited by Harvey W. Wiley, Secretary of the Association. Pp. 169. (Bulletin No. 51, Division of Chemistry.) Price 10 cents.

Some Edible and Poisonous Fungi. By Dr. W. G. Farlow, Professor of Cryptogamic Botany, Harvard University. Pp. 453-470, pls. xxi-xxx. (Bulletin No. 15, Division of Vegetable Physiology and Pathology.) Reprint from Yearbook of U. S. Department of Agriculture for 1897.

A presentation of the characteristics of a few of the most common fungi, with notes on poisonous species which might be mistaken for the edible by those who have not studied fungi.

Beet-Sugar Industry in the United States. Report of Special Agent Charles F. Saylor. Pp. 161-233. (Reprint from House Document 396, 55th Congress, 2d Session.)

Monthly List of Publications, May, 1898. Pp. 8. (No. 272, Division of Publications.)

A list of publications issued during May by the United States Department of Agriculture.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Bulletin of the River and Flood Service for May, 1898. Prepared under the direction of Willis L. Moore, Chief of the Weather Bureau, by Park Morrill, Forecast Official and Chief of Forecast Division. Pp. 14, chart 1.

Climate of Cuba. Also a Note on the Weather of Manila. By W. F. R. Phillips, in charge of Section of Climatology. Pp. 23. (Bulletin No. 22.)

A brief report on the temperature and rainfall, and some other climatic features of the Island of Cuba, together with a note on the weather of Manila.

Wrecks and Casualties on the Great Lakes during 1895, 1896, and 1897. Prepared under direction of Willis L. Moore, Chief of Weather Bureau, by Norman B. Conger, Local Forecast Official and Marine Agent. Pp. 23, charts 3.

A report of total and partial losses of vessels on the Great Lakes, the estimated value of each, the number of lives lost, and the cause of the disaster.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (Nos. 12, 13, 14, and 15.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

Monthly Weather Review. April, 1898. Vol. XXVI, No. 4. Pp. 139-193, charts 8. Price 10 cents.

Report of the Chief of the Weather Bureau, 1896-7. In 8 parts. Part I.—Administrative report. Parts II, III, IV, V, and VI.—Climatology. Part VII.—Rainfall of the United States. Part VIII.—Floods of the Mississippi River. Cloth. Pp. i-x, 431, pls. 61, charts 33. (Congressional publication.)

FARMERS' BULLETINS.

Hog Cholera and Swine Plague. By D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry. Pp. 16. Farmers' Bulletin No. 24. 1894. (Reprint.)

Bee Keeping. By Frank Benton, M. S., Assistant Entomologist. Pp. 32, figs. 19. Farmers' Bulletin No. 59. 1897. (Reprint.)

The Liming of Soils. By H. J. Wheeler, Ph. D., Chemist of the Rhode Island Agricultural Experiment Station. Pp. 19. 1898. (Farmers' Bulletin No. 77.)

Results of an investigation of the use of lime on soils, showing the great benefit which follows its use under proper conditions.

PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during June, but the editions were limited and no copies are now available for distribution by the Department.)

Lawns and Lawn Making. By F. Lamson-Scribner, Agrostologist. Pp. i-iii, 355-372 pls. 14. (Reprint from Yearbook of Department of Agriculture for 1897.)

The Needs and Requirements of a Control of Feeding Stuffs. By E. W. Allen, Ph. D., Assistant Director of the Office of Experiment Stations. Pp. i-iii, 421-428. (Reprint from Yearbook of Department of Agriculture for 1897.)

Some Interesting Soil Problems. By Milton Whitney, Chief Division of Soils. Pp. i-iii, 429-440. (Reprint from Yearbook of Department of Agriculture for 1897.)

Additional Notes on Seed Testing. By Gilbert H. Hicks and Sothoron Key, First Assistant and Assistant, Division of Botany. Pp. i-iii, 441-452, figs. 3. (Reprint from Yearbook of Department of Agriculture for 1897.)

Present Status of Flax Culture in the United States. By Chas. Richards Dodge, Special Agent, Office of Fiber Investigations. Pp. i-iii, 471-486. (Reprint from Yearbook of Department of Agriculture for 1897.)

Leguminous Forage Crops. By Jared G. Smith, Assistant Agrostologist. Pp. i-iii, 487-508, pls. 2, figs. 8. (Reprint from Yearbook of Department of Agriculture for 1897.)

Danger of Importing Insect Pests. By L. O. Howard, Ph. D., Entomologist. Pp. i-iii, 529-552, figs. 19. (Reprint from Yearbook of Department of Agriculture for 1897.)

- The Agricultural Outlook of the Coast Region of Alaska. By Walter H. Evans, Ph. D., Botanist of the Office of Experiment Stations. Pp. i-iii, 553-576, pls. 4. (Reprint from Yearbook of Department of Agriculture for 1897.)
- Agricultural Production and Prices. By George K. Holmes, Assistant Statistician. Pp. i-iii, 577-606. (Reprint from Yearbook of Department of Agriculture for 1897.)
- Trees of the United States Important in Forestry. By George B. Sudworth, Dendrologist of the Division of Forestry. Pp. i-iii, 644-669. (Reprint from the Yearbook of the Department of Agriculture for 1897.)
- Foods for Man. Prepared in the Office of Experiment Stations. Pp. i-iii, 676-682. (Reprint from Yearbook of Department of Agriculture for 1897.)
- Hybrids and Their Utilization in Plant Breeding. By Walter T. Swingle and Herbert J. Webber, Special Agents. Division of Vegetable Physiology and Pathology. Pp. i-iii, 383-420, pls. 4, figs. 12. (Reprint from Yearbook of Department of Agriculture for 1897.)
- Utilization of By-Products of the Dairy. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. Pp. i-iii, 509-528. (Reprint from Yearbook of Department of Agriculture for 1897.)
- Review of Weather and Crop Conditions, Season of 1897. By James Berry, Chief of Climate and Crop Division. Pp. i-iii, 689-709, figs. 2. (Reprint from Yearbook of Department of Agriculture for 1897.)
- Analyses of Sugar Beets Grown in Various States. By Harvey W. Wiley, Chemist. Pp. 135-141. Division of Chemistry. (Reprint from House Document No. 396, Fifty-fifth Congress, second session, Special Report on the Beet-Sugar Industry in the United States.)
- Report of Committee on Standards for Volumetric Apparatus, Standard Temperatures for Specific Gravity Determinations, etc. Pp. 7. (Reprint from Bulletin No. 51, Division of Chemistry, Proceedings of the Fourteenth Annual Convention of the Official Agricultural Chemists.)
- The Value of Experiments on the Metabolism of Matter and Energy. By C. F. Langworthy, Ph. D., Office of Experiment Stations. Pp. 1003-1019. (Reprint from Experiment Station Record, Vol. IX, No. 11.)

GEO. WM. HILL,
Chief.

Approved:
JAMES WILSON,
Secretary.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., July 30, 1898.

MONTHLY LIST OF PUBLICATIONS.

[July, 1898.]

- Crop Circular for July, 1898. By John Hyde, Statistician. Pp. 4. (Circular, Division of Statistics.)
- The Larger Apple-Tree Borers. By F. H. Chittenden, Assistant Entomologist. Pp. 12, figs. 3. (Circular No. 32, second series, Division of Entomology.)
- Remedial Work Against the Mexican Cotton-Boll Weevil. By L. O. Howard, Entomologist. Pp. 6. (Circular No. 33, second series, supplementary to Circulars 18 and 27, Division of Entomology.)
- House Ants (*Monomorium pharaonis et al.*). Pp. 4, figs. 3. By C. L. Marlatt, First Assistant Entomologist. (Circular No. 34, second series, Division of Entomology.)
- House Flies (*Musca domestica et al.*). By L. O. Howard, Entomologist. Pp. 8, figs. 6. (Circular No. 35, Division of Entomology.)
- The Periodical Cicada: An Account of Cicada Septendecem, Its Natural Enemies and the Means of Preventing Its Injury, Together with a Summary of the Distribution of the Different Broods. By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 148. Frontispiece, pls. 3, figs. 57. (Bulletin No. 14, new series, Division of Entomology.) Price 15 cents.
- Nutrition Investigation in New Mexico in 1897. By Arthur Goss, M. S., Professor of Chemistry, New Mexico College of Agriculture and Mechanic Arts. Pp. 20, pl. 1, fig. 1. (Bulletin No. 54, Office of Experiment Stations.) Price 5 cents.
- Principal Poisonous Plants of the United States. By V. K. Chestnut. Pp. 60, figs. 34. (Bulletin No. 20, Division of Botany.) Price 5 cents.
- Changes in the Rates of Charge for Railway and Other Transportation Services. Prepared under the direction of John Hyde, Statistician, by H. T. Newcomb, Chief of the Section of Freight Rates in the Division of Statistics. Pp. 80. (Bulletin No. 15, Division of Statistics.) Price 5 cents.
- Spain's Foreign Trade. Prepared by Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 47. (Bulletin No. 11, Section of Foreign Markets.) Reprint. Price 5 cents.
- Our Trade with Spain, 1888-1897. Prepared by Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 47. (Bulletin No. 12, Section of Foreign Markets.) Reprint. Price 5 cents.
- Trade of Puerto Rico. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 84. (Bulletin No. 13, Section of Foreign Markets.) Price 5 cents.
- American Grasses—I. By F. Lamson-Scribner, Agrostologist. Pp. 331, figs. 302. (Bulletin No. 7, Revised Edition, Division of Agrostology.) Price, paper, 20 cents.

A Report upon the Grasses and Forage Plants and Forage Conditions of the Eastern Rocky Mountain Region. By Thomas A. Williams, Assistant Agrostologist. Prepared under the direction of the Agrostologist. Pp. 78, figs. 30, (Bulletin No. 12, Division of Agrostology.) Price 5 cents.

The Fruit Industry and Substitution of Domestic for Foreign-Grown Fruits, with Historical and Descriptive Notes on Ten Varieties of Apples suitable for the Export Trade. By William A. Taylor, Assistant Pomologist. Pp. vii, 305-362, pls. III-VII. (Bulletin No. 7, Division of Pomology.) Reprint from Yearbook for 1897, with additional matter. Price 15 cents.

A Report on Flax Culture for Seed and Fiber in Europe and America. By Charles Richards Dodge, Special Agent. Pp. 80, pls. 4, figs. 5. (Report No. 10, Office of Fiber Investigations.) Price 10 cents.

Historical Sketch of the U. S. Department of Agriculture; Its Objects and Present Organization. Compiled by Charles H. Greathouse, Division of Publications, under direction of Geo. Wm. Hill, Chief of Division of Publications. Pp. 74, pls. 3, figs. 9. (Bulletin No. 3, Division of Publications.) Revised edition.

Index to Authors, with Titles of Their Publications appearing in the Documents of the U. S. Department of Agriculture, 1841 to 1897. By Geo. F. Thompson, Assistant in Charge of Document Section, Division of Publications, under direction of Geo. Wm. Hill, Chief of Division of Publications. Pp. 303. (Bulletin No. 4, Division of Publications.) Price 20 cents.

Foods and Food Adulterants. Investigations made under direction of H. W. Wiley, Chief Chemist, with the collaboration of K. P. McElroy, W. H. Krug, T. C. Trescot, W. D. Bigelow, and others. Cereals and Cereal Products. Pp. vii, 1169-1374, pls. XLVII-LIII, figs. 4. (Bulletin No. 13, Part 9, Division of Chemistry.) Price 15 cents.

Composition of Maize (Indian Corn), Including the Grain, Meal, Stalks, Pith, Fodder, and Cobs. Compiled chiefly from the records of the Division of Chemistry by H. W. Wiley, Chemist of the Department of Agriculture. Pp. 31. (Bulletin No. 50, Division of Chemistry.) Price 5 cents.

Experimental Tree Planting in the Plains. By Charles A. Keffer, Assistant Chief of the Division. Prepared under the direction of B. E. Fernow, Chief of the Division of Forestry. Pp. 94, pls. 5, fig. 1. (Bulletin No. 18, Division of Forestry.) Price 10 cents.

Special Report on the Beet Sugar Industry in the United States. Pp. 240, pls. 2. Cloth. Part I, by H. W. Wiley, Chemist of the U. S. Department of Agriculture. Part II, by Charles F. Saylor, Field Agent. (Printed by resolution of Congress.)

The edition is 60,000 copies, of which 40,000 are for the use of Senators, Representatives, and Delegates in Congress, and 20,000 for distribution by the Department of Agriculture.

Publications of the U. S. Department of Agriculture for sale by the Superintendent of Documents, Union Building, Washington, D. C. (No. 179, Division of Publications.) Corrected to July 1, 1898. Pp. 28.

Monthly List of Publications, June, 1898. Pp. 4. (No. 274, Division of Publications.)

FARMERS' BULLETINS.

- Barnyard Manure. By W. H. Beal, of the Office of Experiment Stations. Pp. 32, figs. 7. (Farmers' Bulletin No. 21.) Reprint.
- Foods: Nutritive Value and Cost. By W. O. Atwater, Ph. D., Professor of Chemistry in Wesleyan University. Pp. 32, chart 1. (Farmers' Bulletin No. 23.) Reprint.
- Hog Cholera and Swine Plague. By D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry. Pp. 16. (Farmers' Bulletin No. 24.) Reprint.
- Sweet Potatoes: Culture and Uses. By J. F. Duggar, of the Office of Experiment Stations. Pp. 30, figs. 4. (Farmers' Bulletin No. 26.) Reprint.
- Silos and Silage. By Charles S. Plumb, B. S., Professor of Animal Industry and Dairying in Purdue University and Director of the Indiana Agricultural Experiment Station. Pp. 32, figs. 10. (Farmers' Bulletin No. 32.) Reprint.
- Meats: Composition and Cooking. By Chas. D. Woods, Office of Experiment Stations. Pp. 29, figs. 4. (Farmers' Bulletin No. 34.) Reprint.
- Fowls: Care and Feeding. By G. C. Watson, B. Agr., M. S., Professor of Agriculture in Pennsylvania State College, and Agriculturist of the Pennsylvania Agricultural Experiment Station. Pp. 24, figs. 4. (Farmers' Bulletin No. 41.) Reprint.
- Insects Affecting the Cotton Plant. By L. O. Howard, Ph. D., Entomologist. Pp. 32, figs. 18. (Farmers' Bulletin No. 47.) Reprinted, with revision by the author, from Bulletin No. 33, Office of Experiment Stations. Reprint.
- The Manuring of Cotton. Condensed from an article by H. C. White, Ph. D., in Bulletin No. 33 of the Office of Experiment Stations. Pp. 16. (Farmers' Bulletin No. 48.) Reprint.
- Standard Varieties of Chickens. By George E. Howard, Secretary of National Poultry and Pigeon Association, under the supervision of Dr. D. E. Salmon, Chief of Bureau of Animal Industry. Pp. 48, figs. 42. (Farmers' Bulletin No. 51.) Reprint.
- Experiment Station Work—I. Prepared in the Office of Experiment Stations. Pp. 31. (Farmers' Bulletin No. 56.) Reprint.
- Care of Milk on the Farm. By R. A. Pearson, B. S., Assistant Chief of Dairy Division, Bureau of Animal Industry. Pp. 40, figs. 9. (Farmers' Bulletin No. 63.) Reprint.
- Experiment Station Work—III. Prepared in the Office of Experiment Stations. Pp. 32. (Farmers' Bulletin No. 69.) Reprint.
- Tomato Growing. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture, Rutgers College, New Brunswick, N. J. Pp. 30. (Farmers' Bulletin No. 76.)
- Experiment Station Work—VI. Prepared in the Office of Experiment Stations. Pp. 28, figs. 2. (Farmers' Bulletin No. 79.)
- The Peach Twig-Borer: An Important Enemy of Stone Fruits. By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 15, figs. 5. (Farmers' Bulletin No. 80.)
- Corn Culture in the South. By S. M. Tracy, M. S. Pp. 24. (Farmers' Bulletin No. 81.)
- The Culture of Tobacco. By Otto Carl Butterweck. Pp. 24. (Farmers' Bulletin No. 82.)

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Normal Annual Sunshine and Snowfall. Prepared under the direction of Willis L. Moore, Chief of Weather Bureau, by A. J. Henry, Chief of Division. Pp. 5, maps 2.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (Nos. 16, 17, 18, and 19 for July.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

Meteorological Chart of the Great Lakes. (List of Wind Signal Stations on the Lakes, both American and Canadian, with table of maximum of observed wind velocities on the lakes in July, August, and September, and advices as to July storms and storm tracks.) Also the same for August.

Instructions for Aerial Observers. Prepared under direction of Willis L. Moore, Chief of Weather Bureau, by C. F. Marvin, Professor of Meteorology. Pp. 33, figs. 18. Circular K, Instrument Division.

Monthly Bulletin of the River and Flood Service for June, 1898. Prepared under direction of Willis L. Moore, Chief of Weather Bureau, by Park Morrill, Forecast Official and Chief of Forecast Division. Pp. 14, chart 1.

Investigation of the Cyclonic Circulation and the Translatory Movement of West Indian Hurricanes. By the late Rev. Benito Viñes, S. J., formerly Director of the Magnetic and Meteorological Observatory of the Colegio de Belen, Habana. Pp. 34.

PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during July, but the editions were limited and no copies are now available for distribution by the Department.)

Fiscal Regulations of the U. S. Department of Agriculture, Together with Extracts from the Revised Statutes, Decisions of Courts, Rulings of the Comptrollers, Opinions of the Attorneys-General, etc. Pp. 45. (Division of Accounts.)

Agricultural Production and Prices. By George K. Holmes, Assistant Statistician. Pp. iii, 577–606. (Reprint from Yearbook of Department of Agriculture for 1897.)

Food Adulteration. By W. D. Bigelow, Referee, and W. S. Sweetser, Associate Referee. Pp. 117–135. (Reprint from Bulletin No. 51, Division of Chemistry, Proceedings of the Fourteenth Annual Convention of Official Agricultural Chemists.)

Experiments with Sugar Beets in 1897. By Harvey W. Wiley, Chemist of the United States Department of Agriculture. Pp. 166, pls. 2. (Bulletin No. 52, Division of Chemistry.) Reprint from House Doc. No. 396, 55th Congress.

GEO. WM. HILL,
Chief.

Approved:
JAMES WILSON,
Secretary.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., August 31, 1898.

MONTHLY LIST OF PUBLICATIONS.

[August, 1898.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes in regard to Department publications.)

Crop Circular for August, 1898. By John Hyde, Statistician. Pp. 4. (Circular, Division of Statistics.)

Progress in Timber Physics: Bald Cypress (*Taxodium distichum*). By Filibert Roth, Division of Forestry. Pp. 24. Quarto. (Circular No. 19, Division of Forestry.)

House Flies (*Musca domestica* et al.). By L. O. Howard, Entomologist. Pp. 8, figs. 6. (Circular No. 35, second series, Division of Entomology.) Reprint.

The True Clothes Moths (*Tinea pellionella* et al.). By C. L. Marlatt, First Assistant Entomologist. Pp. 8, figs. 3. (Circular No. 36, second series, Division of Entomology.)

Danger of Introducing a Central American Coffee Disease into Hawaii. By Walter T. Swingle, Special Agent, Division of Vegetable Physiology and Pathology. Pp. 4. (Circular No. 16, Division of Vegetable Physiology and Pathology.)

Colored Spots in Cheese. By R. A. Pearson, Assistant Chief of Dairy Division, Bureau of Animal Industry. Pp. 6. (Circular No. 24, Bureau of Animal Industry.)

State Aid to Road Building in Minnesota. By A. B. Choate, member of the Executive Committee of the Minnesota State Good Roads Association. Pp. 12, pls. 4, figs. 4. (Circular No. 31, Office of Road Inquiry.)

Sheep Scab: Its Nature and Treatment. By D. E. Salmon, D. V. M., Chief of Bureau of Animal Industry, and Ch. Wardell Stiles, Ph. D., Zoologist of the Bureau. Pp. 64, pls. 6, figs. 36. (Bulletin No. 21, Bureau of Animal Industry.) Price 15 cents.

Studies on American Grasses: I.—A Revision of the North American Species of *Calamagrostis*. By Thomas H. Kearney, jr. II.—Descriptions of New or Little-Known Grasses. By F. Lamson-Scribner. Pp. 62, pls. 17, figs. 12. (Bulletin No. 11, Division of Agrostology.) Price 10 cents.

Nutrition Investigation in New Mexico in 1897. By Arthur Goss, M. S., Professor of Chemistry, New Mexico College of Agriculture and Mechanic Arts. Pp. 21, pl. 1, fig. 1. (Bulletin No. 54, Office of Experiment Stations.) Reprint. Price 5 cents.

Accessions to the Department Library. April–June, 1898. Pp. 25. (Library Bulletin, No. 23.) Price 5 cents.

The World's Markets for American Products, Norway. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 68. (Bulletin No. 7, Section of Foreign Markets.) Revised edition. Price 5 cents.

The World's Markets for American Products, Sweden. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 93. (Bulletin No. 8, Section of Foreign Markets.) Revised edition. Price 5 cents.

Changes in the Rates of Charge for Railway and Other Transportation Services. Prepared, under the direction of John Hyde, Statistician, by H. T. Newcomb, Chief of the Section of Freight Rates in the Division of Statistics. Pp. 80. (Bulletin No. 15, Division of Statistics.) Reprint. Price 5 cents.

The Fertilizer Industry: Review of Statistics of Production and Consumption, with Abstracts of State Laws for Analysis and Sale. Compiled, under the direction of John Hyde, Statistician, by George K. Holmes, Assistant Statistician. Pp. 27. (Miscellaneous series, Bulletin No. 13, Division of Statistics.) Reprint. Price 5 cents.

Monthly List of Publications. July, 1898. Pp. 4. (No. 277, Division of Publications.)

FARMERS' BULLETINS.

Tobacco Soils: By Milton Whitney, Chief of Division of Soils. Pp. 23, fig. 1. (Farmers' Bulletin No. 83.)

The Feeding of Farm Animals. By E. W. Allen, Ph. D., Assistant Director of the Office of Experiment Stations. Pp. 32. (Farmers' Bulletin No. 22.) Reprint.

Peanuts: Culture and Uses. By R. B. Handy, of the Office of Experiment Stations. Pp. 24, fig. 1. (Farmers' Bulletin No. 25.) Reprint.

Weeds and How to Kill Them. By Lyster H. Dewey, Assistant Botanist. Pp. 32, figs. 11. (Farmers' Bulletin No. 28.) Reprint.

Potato Culture. By J. F. Duggar, of the Office of Experiment Stations. Pp. 24, figs. 2. (Farmers' Bulletin No. 35.) Reprint.

Farm Drainage. By C. G. Elliott, C. E., Member of the American Society of Civil Engineers, Peoria, Ill. Pp. 24, figs. 6. (Farmers' Bulletin No. 40.) Reprint.

Commercial Fertilizers: Composition and Use. By Edward B. Voorhees, M. A., Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture in Rutgers College, under the supervision of the Office of Experiment Stations. Pp. 24. (Farmers' Bulletin No. 44.) Reprint.

Sorghum as a Forage Crop. By Thomas A. Williams, Assistant Agrostologist. Prepared under the direction of the Agrostologist. Pp. 19. (Farmers' Bulletin No. 50.) Reprint.

The Sugar Beet: Culture, Seed Development, Manufacture, and Statistics. By H. W. Wiley, Chief of the Division of Chemistry, and formerly Director of the Department Sugar Beet Experiment Station in Nebraska. Pp. 48, figs. 24. (Farmers' Bulletin No. 52.) Reprint.

Some Common Birds in Their Relation to Agriculture. By F. E. L. Beal, B. S., Assistant Ornithologist, Biological Survey. Pp. 40, figs. 22. (Farmers' Bulletin No. 54.) Reprint.

The Dairy Herd: Its Formation and Management. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. Pp. 24. (Reprinted, with revision by the author, from the Yearbook of the U. S. Department of Agriculture for 1894.) (Farmers' Bulletin No. 55.) Reprint.

Butter Making on the Farm. By C. P. Goodrich, Dairy Instructor, Farmers' Institute Department, University of Wisconsin, under supervision of the Dairy Division, Bureau of Animal Industry. Pp. 15. (Farmers' Bulletin No. 57.) Reprint.

Methods of Curing Tobacco. By Milton Whitney, Chief of Division of Soils. Revised edition. Pp. 16. (Farmers' Bulletin No. 60.) Reprint.

Asparagus Culture. By R. B. Handy, Division of Publications. Pp. 40, figs. 17. (Farmers' Bulletin No. 61.) Reprint.

Ducks and Geese: Standard Breeds and Management. By George E. Howard, Secretary of National Poultry and Pigeon Association. Pp. 48, figs. 37. (Farmers' Bulletin No. 64.) Reprint.

Meadows and Pastures: Formation and Cultivation in the Middle Eastern States. By Jared G. Smith, Assistant Agrostologist. Pp. 24, figs. 9. (Farmers' Bulletin No. 66.) Reprint.

Forestry for Farmers. By B. E. Fernow, Chief of the Division of Forestry. (Reprinted from the Yearbooks of the U. S. Department of Agriculture for 1894 and 1895.) Pp. 48, figs. 15. (Farmers' Bulletin No. 67.) Reprint.

Milk as Food. Prepared in the Office of Experiment Stations. Pp. 39. (Farmers' Bulletin No. 74.) Reprint.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Bulletin of the River and Flood Service for July, 1898. Prepared under the direction of Willis L. Moore, Chief of Weather Bureau, by E. B. Garriot, Professor in charge Forecast Division. Pp. 13, chart 1.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (Nos. 20, 21, 22, 23, and 24 for August.)

Meteorological Chart of the Great Lakes. (List of Wind Signal Stations on the Lakes, both American and Canadian, with table of maximum of observed wind velocities on the lakes in July, August, and September, and advices as to September storms and storm tracks.)

Monthly Weather Review. May, 1898. Vol. XXVI, No. 5. Pp. 195-240, charts 12. Price 10 cents.

Monthly Weather Review. June, 1898, Vol. XXVI, No. 6. Pp. 241-290, charts 7. Price 10 cents.

NOTES REGARDING DEPARTMENT PUBLICATIONS.

The publications of the United States Department of Agriculture are of three classes: (1) Serial publications; (2) scientific and technical reports; and, (3) popular bulletins.

The first two classes are issued in limited editions and are not intended for general distribution, being particularly designed for scientific students and for libraries and institutions of learning. They are distributed free to persons cooperating with or rendering the Department some service. Sample copies will be sent if requested, but miscellaneous applicants should apply to the Superintendent of Documents, Union Building, Washington, D. C., to whom all publications not needed for official use, except circulars and bulletins printed by law for free distribution, are turned over in accordance with the following provision of the act providing for the public printing and binding and the distribution of public documents, viz:

SEC. 67. All documents at present remaining in charge of the several Executive Departments, bureaus, and offices of the Government not required for official use shall be delivered to the Superintendent of Documents, and hereafter all public documents accumulating in said Departments, bureaus, and offices not needed for official use shall be annually turned over to the Superintendent of Documents for distribution or sale.

The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the **number** and **title** of the publication desired.

The Department has no list to whom all publications are sent; the variety of the subjects treated naturally restricts the distribution of most of them to the sections of country to which they are especially suitable and to specialists. The Monthly List of Publications, issued the first of each month, will be mailed to all who apply for it. In it the titles of the publications are given with a note explanatory of the character of each, thus enabling the reader to make intelligent application for such bulletins and reports as are certain to be of interest to him.

The Department can not undertake to furnish complete sets of either Farmers' Bulletins or other publications.

For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.

For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

SUPERINTENDENT OF DOCUMENTS,
UNION BUILDING,
WASHINGTON, D. C.,

accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

The Superintendent of Documents is not permitted to sell more than one copy of any public document to the same person.

The Superintendent of Documents is not an official of the Department of Agriculture.

Applications for all other publications of this Department should be addressed to the Secretary of Agriculture, Washington, D. C.

Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents; Yearbook 1897, 60 cents.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *September 30, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[September, 1898.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes in regard to Department publications.)

Crop Circular for September, 1898. By John Hyde, Statistician.
Pp. 4. (Circular Division of Statistics.)

Report on condition of corn, wheat, oats, barley, rye, buckwheat, cotton, tobacco, Irish and sweet potatoes, clover seed, sugar cane, rice, apples, peaches, grapes, and stock hogs. Also the weather conditions in the corn-producing States from August 1 to September 6, and a table showing the average dates of occurrence of the first killing frost in those States.

Must the Farmer Pay for Good Roads? By Otto Dormer, Milwaukee, Wis., Chairman National Committee for Highway Improvement, League of American Wheelmen. Pp. 40, pls. 35, figs. 15. 16 mo. (Circular No. 31, Office of Road Inquiry.)

A plea for State aid to road building, a means by which the cities will help to pay for country roads.

Colored Spots in Cheese. By R. A. Pearson, Assistant Chief of Dairy Division, Bureau of Animal Industry. Pp. 6. (Circular No. 24, Bureau of Animal Industry.) Reprint.

Some Books on Agriculture and Sciences Related to Agriculture, Published 1896-1898. Prepared by the Office of Experiment Stations, with the Cooperation of the Library of the Department of Agriculture. Pp. 45. (Circular No. 38, Office of Experiment Stations.)

Utilization of By-Products of the Dairy. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. Pp. i-iii, 509-528. (Reprint from Yearbook of Department of Agriculture for 1897.)

Studies on American Grasses: I—A Revision of the North American Species of *Calamagrostis*. By Thomas H. Kearney, jr. II—Descriptions of New or Little-Known Grasses. By F. Lamson-Scribner, Agrostologist. Pp. 62, pls. 17, figs. 12. (Bulletin No. 11, Division of Agrostology.) Reprint. Price 10 cents.

Report on an Investigation of Analytical Methods for Distinguishing Between the Nitrogen of Proteids and That of the Simpler Amids or Amido-Acids. By J. W. Mallet, Professor of Chemistry, University of Virginia, with a Chapter on the Separation of Flesh Bases from Proteid Matter by Means of Bromin, by H. W. Wiley, Chief of Division of Chemistry. Pp. 30. (Bulletin No. 54, Division of Chemistry.) Price 5 cents.

The Fertilizing Value of Street Sweepings. An investigation made under the direction of H. W. Wiley, Chief Chemist, by Ervin E. Ewell, First Assistant Chemist. Pp. 19. (Bulletin No. 55, Division of Chemistry.) Price 5 cents.

Report of an investigation in regard to the quantity and methods of disposition of street sweepings; field tests of their fertilizing value, and analyses of street and alley sweepings.

Osier Culture. By John M. Simpson. Prepared under direction of B. E. Fernow, Chief of Division of Forestry. Pp. 27. (Bulletin No. 19, Division of Forestry.) Price 5 cents.

A compilation of matter relating to the cultivation and uses of osier willows.

Cuckoos and Shrikes in Their Relation to Agriculture. The Food of Cuckoos, by F. E. L. Beal, B. S. The Food of Shrikes, by Sylvester D. Judd, Ph. D. Prepared under the direction of Dr. C. Hart Merriam, Chief of Biological Survey. Pp. 26, pl. 1, fig. 1. (Bulletin No. 9, Biological Survey.) Price 5 cents.

Two papers based on investigations made in the laboratory of the Biological Survey, and showing that Cuckoos and Shrikes feed on insects that are harmful to crops.

Life Zones and Crop Zones of The United States. By C. Hart Merriam, Chief, Biological Survey. Pp. 79, colored map. (Bulletin No. 10, Biological Survey.) Price 10 cents.

An explanation of the relations to practical agriculture of a study of the geographic distribution of our native land animals and plants, and mapping the boundaries of the areas they inhabit.

The Geographic Distribution of Cereals in North America. By C. S. Plumb, B. S., Director Indiana Agricultural Experiment Station, Purdue University, Lafayette, Ind. Prepared under the direction of Dr. C. Hart Merriam, Chief of Biological Survey. Pp. 24, maps 3. (Bulletin No. 11, Biological Survey.) Price 10 cents.

Result of an investigation to ascertain the areas in which the more important varieties of certain cereals are cultivated and to determine how far the distribution of cereals accords with the boundaries of the life zones as mapped by the Biological Survey.

Cultivation of Tobacco in Sumatra. By Emile Mulder. Pp. 39, figs. 3, map. Price 5 cents.

A Report on the Culture of Hemp in Europe, including a Special Consular Report on the Growth of Hemp in Italy, received through the Department of State. By Charles Richards Dodge, Special Agent. Pp. 29, figs. 6. (Report No. 11, Office of Fiber Investigations.) Price 5 cents.

Experiment Station Record, Vol. X, No. 1. Pp. v, 1-100. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Monthly List of Publications, August, 1898. Pp. 4. (No. 281, Division of Publications.)

FARMERS' BULLETINS.

Important Insecticides: Directions for Their Preparation and Use.
By C. L. Marlatt, M. S., First Assistant Entomologist. Pp. 32.
(Farmers' Bulletin No. 19.) Fourth revised edition.

Foods: Nutritive Value and Cost. By W. O. Atwater, Ph. D.,
Professor of Chemistry in Wesleyan University. Pp. 32, charts
2. (Farmers' Bulletin No. 23.) Reprint.

Meats: Composition and Cooking. By Chas. D. Woods, Office of
Experiment Stations. Pp. 29, figs. 3. (Farmers' Bulletin No. 34.)
Reprint.

Marketing Farm Produce. By George G. Hill, formerly manager
and editor of the American Farmer, Illinois. Pp. 28, figs. 7.
(Farmers' Bulletin No. 62.) Reprint.

Experiment Station Work—II. Pp. 32, figs. 7. (Farmers' Bulletin
No. 65.) Reprint.

Experiment Station Work—IV. Pp. 32, figs. 3. (Farmers' Bulletin
No. 73.) Reprint.

Milk as Food. Prepared in the Office of Experiment Stations. Pp.
39, charts 2. (Farmers' Bulletin No. 74.) Reprint.

Experiment Station Work—V. Pp. 32, figs. 2. (Farmers' Bulletin
No. 78.) Reprint.

Corn Culture in the South. By S. M. Tracy, M. S. Pp. 24. (Farm-
ers' Bulletin No. 81.) Reprint.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed
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Moisture Tables. Prepared under direction of Willis L. Moore,
Chief of Weather Bureau. By C. F. Marvin, Professor of Mete-
orology. Pp. 9, fig. 1.

Rainfall in Nicaragua. By A. J. Henry, Chief of Division. Pp. 4.
(Reprinted from the Monthly Weather Review, April and July,
1898.)

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Meteorological Chart of the Great Lakes. (List of Wind Signal Stations on
the Lakes, both American and Canadian, with table of maximum of observed
wind velocities on the lakes in October, November, and December, and advices
as to October storms and storm tracks.)

PUBLICATION NOT AVAILABLE.

Scandinavian Seed-Control Stations. By F. W. Woll, Assistant
Professor of Agricultural Chemistry, University of Wisconsin.
Pp. 6-15. (Reprint from Experiment Station Record, Vol. 10,
No. 1.)

Approved:
JAMES WILSON,
Secretary.

JOS. A. ARNOLD,
Acting Chief.

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WASHINGTON, D. C.,

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United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *October 31, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[October, 1898.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes in regard to Department publications.)

The Renewing of Worn-out Native Prairie Pastures. By Thomas A. Williams, Assistant Agrostologist. Pp. 4, figs. 4. (Circular No. 4—Revised, Division of Agrostology.) Reprint.

Exports of Cotton from Egypt. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 7. (Circular No. 15, Section of Foreign Markets.) Reprint.

United States Wheat for Eastern Asia. By Frank H. Hitchcock, Chief of Section of Foreign Markets. Pp. 8. (Circular No. 17, Section of Foreign Markets.) Reprint.

Hawaiian Commerce from 1887 to 1897. By Frank H. Hitchcock, Chief, Section of Foreign Markets. Pp. 37. (Circular No. 18—Revised, Section of Foreign Markets.) Reprint.

Directions for the Pasteurization of Milk. By D. E. Salmon, Chief of Bureau of Animal Industry. P. 1. (Circular No. 1, Bureau of Animal Industry.) Revised edition. Reprint.

Crop Circular for October, 1898. By John Hyde, Statistician. Pp. 8. (Circular, Division of Statistics.)

Report on the condition of corn, buckwheat, cotton, Irish potatoes, apples, tobacco, sugar cane, sorghum, and rice; and preliminary estimates of the yield of oats, barley, and rye. Also estimates of the world's wheat crop; weather conditions east of the Rocky Mountains for September, 1898; rainfall; and a table showing average yield per acre and average condition of crops, by States and Territories, October 1, 1898.

Some Books on Agriculture and Sciences Related to Agriculture Published 1896–1898. Prepared by the Office of Experiment Stations with the cooperation of the Library of the Department of Agriculture. Pp. 45. (Circular No. 38, Office of Experiment Stations.) Reprint.

A list of books on agriculture and sciences related to agriculture published in the past two years.

Practical Assistance to Farmers, Lumbermen, and Others in Handling Forest Lands. By Gifford Pinchot, Forester. Pp. 5. (Circular No. 21, Division of Forestry.)

A proposed plan for promoting and increasing the value and usefulness of forest land to the owner, and to perpetuate and improve the forest upon it.

Notes on Peach Culture. By J. H. Hale, Connecticut. Pp. 8, figs. 4. (Circular No. 3, Division of Pomology.) Reprint.

Small Fruit Culture for Market. By William A. Taylor, Assistant Pomologist. Pp. 283-294. (Reprint from Yearbook of Department of Agriculture for 1895.)

The Red Desert of Wyoming and its Forage Resources. By Aven Nelson, Professor of Botany in the University of Wyoming. Prepared under the direction of the Agrostologist. Pp. 72, pls. 5, figs. 24. (Bulletin No. 13, Division of Agrostology.) Price 10 cents.

Economic Grasses. By F. Lamson-Scribner, Agrostologist. Pp. 85, pls. 3, figs. 91. (Bulletin No. 14, Division of Agrostology.) Price 10 cents.

Description of 252 grasses and their uses.

Chemical Composition of the Carcasses of Pigs. By H. W. Wiley, Chief of the Division of Chemistry, with the collaboration of E. E. Ewell, W. H. Krug, T. C. Trescot, and others. Pp. 80. (Bulletin No. 53, Division of Chemistry.) Price 5 cents.

Experiment Station Record, Vol. IX, No. 12. Pp. xvi, 1101-1198. Price 10 cents.

Experiment Station Record, Vol. X, No. 2. Pp. vi, 101-200, pls. 2, figs. 3. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Monthly List of Publications, September, 1898. Pp. 4. (No. 290, Division of Publications.)

FARMERS' BULLETINS.

The Feeding of Farm Animals. By E. W. Allen, Ph. D., Assistant Director of the Office of Experiment Stations. Pp. 32. (Farmers' Bulletin No. 22.) Reprint.

Souring of Milk and Other Changes in Milk Products. Prepared in the Office of Experiment Stations. Pp. 23. (Farmers' Bulletin No. 29.) Reprint.

Butter Making on the Farm. By C. P. Goodrich, Dairy Instructor, Farmers' Institute Department, University of Wisconsin. Under supervision of the Dairy Division, Bureau of Animal Industry. Pp. 16. (Farmers' Bulletin No. 57.) Reprint.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Bulletin of the River and Flood Service for August, 1898.
Prepared under direction of Willis L. Moore, Chief of Weather Bureau, by E. B. Garriott, Professor, in charge Forecast Division.
Pp. 15, chart 1.

Monthly Weather Review. July, 1898. Vol. XXVI, No. 7. Pp. 291-341, charts 12. Price 10 cents.

Monthly Weather Review. August, 1898. Vol. XXVI, No. 8. Pp. 343-390, charts 7. Price 10 cents.

Charts of the Weather Bureau—

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

Meteorological Chart of the Great Lakes. (List of Wind Signal Stations on the Great Lakes, both American and Canadian, with table of maximum of observed wind velocities on the lakes and advices as to November storms and storm tracks.)

Approved:

JAMES WILSON,
Secretary.

GEO. WM. HILL,
Chief.

NOTES REGARDING DEPARTMENT PUBLICATIONS.

The publications of the United States Department of Agriculture are of three classes: (1) Serial publications; (2) scientific and technical reports; and, (3) popular bulletins.

The first two classes are issued in limited editions and are not intended for general distribution, being particularly designed for scientific students and for libraries and institutions of learning. They are distributed free to persons cooperating with or rendering the Department some service. Sample copies will be sent if requested, but miscellaneous applicants should apply to the Superintendent of Documents, Union Building, Washington, D. C., to whom all publications not needed for official use, except circulars and bulletins printed by law for free distribution, are turned over in accordance with the following provision of the act providing for the public printing and binding and the distribution of public documents, viz:

SEC. 67. All documents at present remaining in charge of the several Executive Departments, bureaus, and offices of the Government not required for official use shall be delivered to the Superintendent of Documents, and hereafter all public documents accumulating in said Departments, bureaus, and offices not needed for official use shall be annually turned over to the Superintendent of Documents for distribution or sale.

The Farmers' Bulletins treat in a practical manner of subjects of particular interest to farmers, and are issued with a view to the widest possible circulation. These bulletins and circulars of information are free, two-thirds of them being set aside under the law for distribution through Senators, Representatives, and Delegates in Congress. Applications may be addressed to the Secretary of Agriculture, stating both the number and title of the publication desired.

The Department has no list to whom all publications are sent; the variety of the subjects treated naturally restricts the distribution of most of them to the sections of country to which they are especially suitable and to specialists. The Monthly List of Publications, issued the first of each month, will be mailed to all who apply for it. In it the titles of the publications are given with a note explanatory of the character of each, thus enabling the reader to make intelligent application for such bulletins and reports as are certain to be of interest to him.

The Department can not undertake to furnish complete sets of either Farmers' Bulletins or other publications.

For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.

For publications mentioned in the Monthly List preceding, **to which a price is attached** (with the exception of those issued by the Weather Bureau), application must be made to the

SUPERINTENDENT OF DOCUMENTS,

UNION BUILDING,

WASHINGTON, D. C.,

accompanied by the price thereof as fixed by him in accordance with the provisions of sections 61 and 67 of the act providing for the public printing and binding, and the distribution of public documents, approved January 12, 1895, and all remittances should be made to him and **not** to the Department of Agriculture; such remittances should be made by postal money order and not by private check or stamps.

The Superintendent of Documents is not permitted to sell more than one copy of any public document to the same person.

The Superintendent of Documents is not an official of the Department of Agriculture.

Applications for all other publications of this Department should be addressed to the Secretary of Agriculture, Washington, D. C.

Do not inclose stamps when writing to the Department about publications; it is not necessary in order to secure a reply.

Please advise the Department of any change of address.

The Department has no copies of the Horse Book or the Cattle Book.

The Superintendent of Documents has copies of the Yearbook for sale, as follows: Yearbook 1894, 50 cents; Yearbook 1895, 55 cents; Yearbook 1896, 50 cents; Yearbook 1897, 60 cents.

United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *November 30, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[November, 1898.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C. See accompanying notes in regard to Department publications.)

Fourteenth Annual Report of the Bureau of Animal Industry for the Fiscal Year 1897. Pp. 727, pls. 6, figs. 54. Price, cloth, 65 cents.

CONTENTS.—Report of the Chief—Outlines of the work pursued by the Bureau—Some essentials in beef production—Contagious diseases in European countries—The curing of bacon—Sheep scab: Its nature and treatment—Investigations relative to sheep scab—Anthrax in the lower Mississippi Valley—Enzootic cerebro-spinal meningitis in horses, and hog cholera in Idaho—Investigation of alleged rabies in Nebraska—Some agricultural experiment station work—Movement of farm animals—Range of prices of live stock at Chicago, 1891–1896—Inspection and movement of sheep—Animals imported for breeding purposes—Imports of animals at quarantine stations—Number and value of farm animals—Imports and exports of animals and animal products—Publications of the fiscal year 1897—Rules and regulations of the Bureau of Animal Industry—Laws of States and Territories for the control of contagious animal diseases—Laws of States and Territories relative to dairy products.

This is a Congressional publication and but a limited number is assigned to the Department, the remainder being for distribution by Senators, Representatives, and Delegates in Congress.

Crop Circular for November, 1898. By John Hyde, Statistician.

Pp. 4. (Circular, Division of Statistics.)

Preliminary estimates of the yield of corn, buckwheat, cotton, tobacco, Irish and sweet potatoes, hay, sugar cane, and sorghum. Also estimates of foreign crops.

State Standards for Dairy Products, 1898. Compiled by R. A.

Pearson, Assistant Chief of Dairy Division. P. 1. (Circular No. 25, Bureau of Animal Industry.)

Table showing the percentage of solids and fats contained in dairy products as required by the laws of the several States.

National and State Dairy Laws. Compiled and abstracted by R. A.

Pearson, B. S., Assistant Chief of Dairy Division. Pp. iii, 531–708.

(Reprinted from the Fourteenth Annual Report of the Bureau of Animal Industry.)

Best Roads for Farms and Farming Districts. By Roy Stone, Special Agent and Engineer. Pp. iii, 501–504, figs. 131–137. (From Yearbook of the U. S. Department of Agriculture for 1894.) Reprint.

State Highways in Massachusetts. By George A. Perkins, Chairman Massachusetts State Highway Commission. Pp. iii, 505–512.

(From Yearbook of the U. S. Department of Agriculture for 1894.) Reprint.

Experiment Station Record Vol. X, No. 3. Pp. vi, 201-300. Price 10 cents.

The Record contains numerous abstracts of the publications of the agricultural experiment stations and kindred institutions in this and other countries; articles and editorials on topics of special interest in agricultural science by American and foreign experts; and notes on the experiment stations.

NOTE.—For the convenience of those who desire to receive this publication regularly the Superintendent of Documents has decided to fix the price per volume (12 numbers) beginning with Vol. VIII, at \$1, payable in advance.

Monthly List of Publications, October, 1898. Pp. 4. (No. 293, Division of Publications.)

A Report upon the Forage Plants and Forage Resources of the Gulf States. By S. M. Tracy, formerly Director of the Mississippi Agricultural Experiment Station. Prepared under the direction of the Agrostologist. Pp. 55, figs. 20. (Bulletin No. 15, Division of Agrostology.) Price 5 cents.

Descriptions of soils and natural pastures, and suggestions for the formation of permanent pastures and meadows. Also a list and description of the more important of the native or cultivated hay and pasture plants of the Gulf States.

Check List of the Forest Trees of the United States, Their Names and Ranges. By George B. Sudworth, Dendrologist of the Division of Forestry. Prepared under the direction of B. E. Fernow, Chief of the Division of Forestry. Pp. 144. (Bulletin No. 17, Division of Forestry.) Price 15 cents.

Losses in Boiling Vegetables and the Composition and Digestibility of Potatoes and Eggs. By H. Snyder, B. S., Almah J. Frisby, M. D., and A. P. Bryant, M. S. Pp. 31, figs. 7. (Bulletin No. 43, Office of Experiment Stations.) Reprint. Price 5 cents.

Proceedings of the Fourteenth Annual Convention of the Association of Official Agricultural Chemists, held at Washington, D. C., October 26, 27, and 28, 1897. Edited by Harvey W. Wiley, Secretary of the Association. Pp. 169. (Bulletin No. 51, Division of Chemistry.) Reprint. Price 10 cents.

List of Publications Relating to Forestry in the Department Library. Prepared under the direction of the Librarian. Pp. 92. (Library Bulletin No. 24.) Price 15 cents.

A list of the works relating to forestry which have been collected since the institution of the Division of Forestry in the Department of Agriculture, together with the forestry library of the late Prof. Franz von Baur, of Munich, which was purchased by the Department in 1897.

The Chinch Bug: Its Probable Origin and Diffusion, Its Habits and Development, Natural Checks and Remedial and Preventive Measures, with Mention of the Habits of an Allied European Species. Prepared, under the direction of the Entomologist, by F. M. Webster, Entomologist of the Ohio Agricultural Experiment Station. Pp. 82, figs. 19. (Bulletin No. 15, new series, Division of Entomology.) Price 10 cents.

FARMERS' BULLETINS.

Hog Cholera and Swine Plague. By D. E. Salmon, D. V. M., Chief of Bureau of Animal Industry. Pp. 16. (Farmers' Bulletin No. 24.) Reprint.

Fowls: Care and Feeding. By G. C. Watson, B. Agr., M. S., Professor of Agriculture in Pennsylvania State College and Agriculturist of the Pennsylvania Agricultural Experiment Station. Pp. 24, figs. 4. (Farmers' Bulletin No. 41.) Reprint.

Standard Varieties of Chickens. By George E. Howard, Secretary of National Poultry and Pigeon Association, under the supervision of Dr. D. E. Salmon, Chief of the Bureau of Animal Industry. Pp. 48, figs. 42. (Farmers' Bulletin No. 51.) Reprint.

Experiment Station Work—I. Prepared in the Office of Experiment Stations. Pp. 31. (Farmers' Bulletin No. 56.) Reprint.

Bee Keeping. By Frank Benton, M. S., Assistant Entomologist. Pp. 32. (Farmers' Bulletin No. 59.) Reprint.

Care of Milk on the Farm. By R. A. Pearson, B. S., Assistant Chief of Dairy Division, Bureau of Animal Industry. Pp. 40, figs. 9. (Farmers' Bulletin No. 63.) Reprint.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Weather Review. September, 1898. Vol. XXVI, No. 9. Pp. 391-437, charts 12. Price 10 cents.

Charts of the Weather Bureau—

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (No. 29, for October.)

Meteorological Chart of the Great Lakes. (List of Wind Signal Stations on the Lakes, both American and Canadian, with table of maximum of observed wind velocities on the lakes in October and November, and advices as to December storms and storm tracks.)

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PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during November, but the editions were limited and no copies are now available for distribution by the Department.)

Water as a Factor in the Growth of Plants. By B. T. Galloway and Albert F. Woods, Chief and Assistant Chief of the Division of Vegetable Physiology and Pathology. Pp. iii, 165-176, figs. 12-15. (From Yearbook of the U. S. Department of Agriculture for 1894.) Reprint.

Mineral Phosphates as Fertilizers. By H. W. Wiley, Chemist of the U. S. Department of Agriculture. Pp. iii, 177-192, figs. 16-17. (From Yearbook of the U. S. Department of Agriculture for 1894.) Reprint.

Grasses as Sand and Soil Binders. By F. Lamson-Scribner, B. S., Agrostologist. Pp. iii, 421-436, figs. 100-110. (From Yearbook of the U. S. Department of Agriculture for 1894.) Reprint.

Physical and Meteorological Researches, Principally on Solar Rays, Made at the Station of Agricultural Climatology at the Observatory of Juvisy. By Camille Flammarion, Director of the Station. Pp. 103-213, pls. 2, figs. 7. (From Experiment Station Record Vol. X, Nos. 2 and 3.)

Approved:

JAMES WILSON,
Secretary.

GEO. WM. HILL,
Chief.

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This circular will be sent regularly to all who apply for it.

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United States Department of Agriculture,

DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *December 31, 1898.*

MONTHLY LIST OF PUBLICATIONS.

[December, 1898.]

(To obtain those publications to which a price is affixed, application should be made to the Superintendent of Documents, Union Building, Washington, D. C.)

Report of the Secretary of Agriculture. 1898. Pp. 60.

CONTENTS.—Summary—Practicability of Exporting dairy products—Nature teaching in the common schools—Facilities of the Department for post-graduate instruction in agricultural science—Investigation of agricultural resources of insular dependencies of the United States—Résumé of the work of the Weather Bureau, the Bureau of Animal Industry, the Division of Chemistry, the Division of Entomology, the Biological Survey, the Division of Vegetable Physiology and Pathology, Seed distribution, the Section of Foreign Markets, the Office of Road Inquiry, the Division of Agrostology, the Division of Soils, the Division of Forestry, the Office of Experiment Stations, the Division of Botany, the Division of Pomology, the Division of Publications, the Division of Statistics, the Division of Accounts and Disbursements.

Some Books on Agriculture and Sciences Related to Agriculture, Published 1896-1898. Prepared by the Office of Experiment Stations, with the cooperation of the Library of the Department of Agriculture. Pp. 45. (Circular No. 38, Office of Experiment Stations.) Reprint.

Third Report of Committee of Association of American Agricultural Colleges and Experiment Stations on Methods of Teaching Agriculture. By J. H. Connell, A. C. True, T. F. Hunt, H. T. French, and H. H. Wing, Committee. Pp. 7. (Circular No. 39, Office of Experiment Stations.)

The report contains a syllabus of a course in Agronomy, showing the topics to be treated, their relative importance, the time which should be devoted to each, and especially the order of presentation.

Gram, Chick-Pea, or Idaho Pea. By Jared G. Smith, Assistant Agrostologist. Pp. 4, fig. 1. (Circular No. 7, Division of Agrostology.)

A brief history and description of this plant and its uses.

The Cotton Crop of 1897-98. Prepared under the direction of the Statistician, by James L. Watkins, of the Division of Statistics. Pp. 16. (Circular No. 9, Division of Statistics.)

Shows the cotton crop by States, the movement of cotton by rail, river and wagon, the amount purchased by mills, comparative acreage and production, the world's consumption of cotton, the number of spindles in operation in 1898, and the consumption of American cotton by foreign countries.

State Standards for Dairy Products, 1898. Compiled by R. A. Pearson, B. S., Assistant Chief of Dairy Division. P. 1. (Circular No. 25, Bureau of Animal Industry.) Reprint.

Addresses on Road Improvement. By Roy Stone, Special Agent and Engineer. Pp. 15. (Circular No. 14, Office of Road Inquiry.) Reprint.

Money Value of Good Roads to Farmers. By Prof. W. C. Latta of Purdue University, Lafayette, Ind. Pp. 4. (Circular No. 23, Office of Road Inquiry.) Reprint.

Going in Debt for Good Roads. Address by Judge Thayer of Clinton, Iowa, before the Bankers' Association at their annual meeting in Council Bluffs, May 24, 1893. Pp. 6. (Circular No. 26, Office of Road Inquiry.) Reprint.

Monthly List of Publications, November, 1898. Pp. 4. (No. 303, Division of Publications.)

Proceedings of the Tenth Annual Meeting of the Association of Economic Entomologists, held at Boston, Mass., August 19 and 20, 1898. Prepared by the Secretary, C. L. Marlatt, Assistant Entomologist, U. S. Department of Agriculture. Pp. 104. (Bulletin No. 17, new series, Division of Entomology.) Price 10 cents.

Systematic Plant Introduction: Its Purposes and Methods. By David G. Fairchild, Special Agent in Charge of Seed and Plant Introduction. Prepared under direction of B. E. Fernow, Chief of the Division of Forestry. Pp. 24. (Bulletin No. 21, Division of Forestry.) Price 5 cents.

Points out briefly some of the factors which should govern the work of plant introduction, and makes clear the new aspect revealed by recent progress in plant breeding and plant pathology.

Accessions to the Department Library. July-September, 1898. (Library Bulletin No. 25.) Price 5 cents.

Proceedings of the Second Annual Meeting of the Association of Experiment Station Veterinarians, held at Omaha, Nebr., September 8, 1898. (Bulletin No. 22, Bureau of Animal Industry.) Price 5 cents.

A Digest of Metabolism Experiments in which the Balance of Income and Outgo was Determined. By W. O. Atwater, Ph. D., and C. F. Langworthy, Ph. D. Prepared under the supervision of A. C. True, Ph. D., Director of the Office of Experiment Stations. Pp. 434. (Bulletin No. 45, Office of Experiment Stations.) Revised edition. Price 25 cents.

Measuring the Forest Crop. By A. K. Mlodziansky, Assistant in Division of Forestry. Prepared under the direction of B. E. Fernow, Chief of the Division of Forestry. Pp. 71, figs. 16. (Bulletin No. 20, Division of Forestry.) Price 10 cents.

Methods of measuring felled and standing trees, together with discussion of a method employed in ascertaining the rate of growth of trees and forest crops.

FARMERS' BULLETINS.

Some Common Birds in Their Relation to Agriculture. By F. E. L. Beal, B. S., Assistant Ornithologist, Biological Survey. Pp. 40, figs. 22. (Farmers' Bulletin No. 54. Revised.) Reprint.

The Dairy Herd: Its Formation and Management. By Henry E. Alvord, C. E., Chief of Dairy Division, Bureau of Animal Industry. Pp. 24. (Farmers' Bulletin No. 55.) Reprint.

Methods of Curing Tobacco. By Milton Whitney, Chief of Division of Soils. Pp. 16. (Farmers' Bulletin No. 60.) Revised Edition.

The Grain Smuts: How They are Caused and How to Prevent Them. By Walter T. Swingle, Special Agent, Division of Vegetable Physiology and Pathology. Pp. 20, figs. 8. (Farmers' Bulletin No. 75.) Reprint.

Experiment Station Work.—V. Prepared in the Office of Experiment Stations. Pp. 32, figs. 2. (Farmers' Bulletin No. 78.) Reprint.

Experiment Station Work—VI. Prepared in the Office of Experiment Stations. Pp. 28, figs. 2. (Farmers' Bulletin No. 79.) Reprint.

Experiment Station Work—VII. Prepared in the Office of Experiment Stations. Pp. 32, figs. 8. (Farmers' Bulletin No. 84.)

CONTENTS.—Home-mixed fertilizers—Forcing asparagus in the field—Field selection of seed—Potatoes as food for man—Corn stover as a feeding stuff—Feeding value of sugar beets—Salt-marsh hay—Forage crops for pigs—Ground grain for chicks—Skim milk for young chickens—By-products of the dairy—Stripper butter—Curd test in cheese making—Gape disease of chickens.

Fish as Food. By C. F. Langworthy, Ph. D., Office of Experiment Stations. Pp. 30. (Farmers' Bulletin No. 85.)

Shows the food value of fish, the great importance of the fisheries of the United States, and the immense amount of nutritive material taken each year from the salt and fresh waters of this country.

PUBLICATIONS OF THE WEATHER BUREAU.

(For the publications of the Weather Bureau, requests and remittances should be directed to the Chief of that Bureau.)

Monthly Bulletin of the River and Flood Service for October, 1898. Prepared under direction of Willis L. Moore, Chief of Weather Bureau, by H. C. Frankenfeld, Forecast Official. Pp. 16, chart 1.

Charts of the Weather Bureau—

Snow and Ice Charts for Monday, December 5, 12, 19, and 26.

(These charts are issued weekly on Tuesdays during the winter season, based upon data from regular Weather Bureau Stations, supplemented by reports from selected voluntary observers.)

Climate and Crop Bulletin (series of 1898), reporting temperature and rainfall, with special reference to their effect on crops. (No. 30, for November.)

Description of cloud forms. (Chart with 10 illustrations.)

Daily Weather Map showing weather conditions throughout the United States and giving forecasts of probable changes.

PUBLICATIONS NOT AVAILABLE.

(The following publications were printed during December, but the editions were limited and no copies are now available for distribution by the Department.)

Report of the Chief of the Division of Chemistry for 1898. By H. W. Wiley, Pp. iii, 7–15. (From Annual Reports Department of Agriculture, 1898.)

Report of the Entomologist for 1898. By L. O. Howard. Pp. iii, 17–25. (From Annual Reports Department of Agriculture, 1898.)

Report of the Acting Chief of the Division of Vegetable Physiology and Pathology for 1898. By Albert F. Woods. Pp. iii, 27–36. (From Annual Reports Department of Agriculture, 1898.)

Report of the Acting Chief of the Division of Biological Survey for 1898. By T. S. Palmer. Pp. iii, 37–42. (From Annual Reports Department of Agriculture, 1898.)

- Report of the Chief of the Division of Publications for 1898. By Geo. Wm. Hill. Pp. iii, 43-86. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Chief of the Division of Accounts and Disbursements for 1898. By F. L. Evans. Pp. iii, 87-102. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Director of the Office of Experiment Stations for 1898. By A. C. True. Pp. iii, 103-126. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Pomologist for 1898. By G. B. Brackett. Pp. iii, 127-131. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Chief of the Division of Soils for 1898. By Milton Whitney. Pp. iii, 133-142. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Agrostologist for 1898. By F. Lamson-Scribner. Pp. iii, 145-152. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Botanist for 1898. By Frederick V. Coville. Pp. iii, 153-158. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Director of the Office of Road Inquiry for 1898. By Martin Dodge. Pp. iii, 159-162. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Chief of the Section of Foreign Markets for 1898. By Frank H. Hitchcock. Pp. iii, 163-166. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Chief of the Division of Forestry for 1898. By Gifford Pinchot. Pp. iii, 169-173. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Statistician for 1898. By John Hyde. Pp. iii, 175-178. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Chief of the Bureau of Animal Industry for 1898. By D. E. Salmon. Pp. iii, 179-191. (From Annual Reports Department of Agriculture, 1898.)
- Report of the Chief of the Weather Bureau for 1898. By Willis L. Moore. Pp. 30. (From Annual Reports Department of Agriculture, 1898.)

Approved:

JAMES WILSON,
Secretary.

GEO. WM. HILL,
Chief.